Unified Team Diving™

Standards and Procedures

Version 6.0c
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1.0 General

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1.1 Overview

1.1.1 Our Mission

UTD Scuba Diving / Unified Team Diving (UTD) was formed:

- To develop and certify instructors who will teach and incorporate the UTD principles, UTD Standards and Procedures, and diving ethos into their classes, while ensuring their course curricula adheres to the UTD Standards and Procedures.
- To develop and certify divers who want to dive and incorporate the UTD approach into their diving.
- To provide online learning programs so instructors and students can receive up-to-date information via UTD classroom materials including diving techniques, teaching skills and other resources.
- To extend beyond our roots in DIR/Hogarthian and create the next level of “Thinking Diver” through our unique teaching methodologies.

1.1.2 Unified Team Diving (UTD) Ethos

UTD is an inclusive philosophy that unifies the team toward the dive, ultimately improving the safety, conformity and competence of the team and therefore the enjoyment of the dive.

Although the roots of the Unified Team Diving philosophy and principles can be found in the Hogarthian/DIR equipment configuration and diving principles, UTD evolved and highlights consistency on multiple diving platforms through unification and communication within your teams via:

- Team diving
- Equipment configuration
- Dive objective and planning
- Promote “thinking diver” vs “protocol diver”
- Training level
- In-water skill set
- Diving experience

1.1.3 The UTD Covenants

1. Unified Team Diving – The team is your backup – gas, equipment and brain.

2. The Thinking Team – No team member relies on another person or piece of equipment to make the “sole” decisions. No “trust me” dives.

3. Rock Bottom Gas Management – Every diver carries enough gas to bring two divers to the next available gas source, either the surface, a deco bottle, or stage bottle.

4. Standard Gas – Dive the desired PPO2 at the target average depth and keep the equivalent narcosis depth to 100’/30m or less. NO DEEP AIR.

5. Consistent Modular Equipment Configuration – An equipment configuration that is consistent, modular and scalable within the team for all types of diving and diving environments.

6. Minimalist Approach – Only take what you need for the dive.

7. Holistic – All components of the system are thought out, work together, and have a solid reason behind their use and placement.

8. Streamlined and Accessible Equipment Configuration – All components can be stowed, yet are convenient to access.

9. Situational Awareness – Manage the environment, equipment and team, giving equal attention to each, never becoming fixated or inflexible. Head up, eyes open, and brain on.

10. The Proper Training and Experience for the Dive – Have the appropriate training to ensure consistent protocols and skills for the dive and understand the potential hazards. This will ensure the correct starting point to build experience.

1.1.4 The UTD Certification Philosophy

Within UTD the student pays for training but must earn certification. If certification is not ‘earned" during a UTD class, the instructor, together with the student, will define a "path to completion” that gives the student a clear path to earning certification such as additional training or additional experience.

1.2.1 Training Steps

Student development and basic class structure is broken into four steps.

1. The academic and classroom training.
2. The introduction to practice of skills while developing students’ overall awareness. This step is conducted in a controlled environment while the instructor takes the time to *teach* the student, NOT evaluate them. This step also includes the academic portion of the class.

3. The demonstration, which includes refinement and mastery of skills.

4. Experience dives to evaluate students’ performance in actual dive conditions. The instructor is specifically looking at the students’ ability to plan and execute a safe dive.

1.3 Training Conduct and Definitions

All UTD instructors involved with any diver training program and/or dive leadership program are considered representatives of UTD.

1.3.1 Definitions Relevant to Standards and Procedures

Confined Water Means:

- Depth less than 20ft/6m
- Visibility sufficient to see ALL students in the class at the same time
- No overhead environments
- Daylight or external lights to produce enough light to simulate daylight
- Calm surface or “pool-like” conditions
- No current

Open Water

- Conditions which are outside of confined water definitions
- Instructor must show good judgement regarding open water conditions and adjust ratios or exposure accordingly.

Training Dives

- To be considered a “dive,” the student must descend to a minimum of 20ft/6m for a minimum of 20 minutes, conditions permitting. The dive must conclude with a proper ascent following UTD ascent strategies.
- Training dive conditions should reflect the diving conditions the class is preparing the students for.

Experience Dives

- Dives which are conducted without new skills being presented or critical skills training being conducted.
- All experience dives will be conducted within UTD course limitations.

1.3.2 Evaluation

In order to receive UTD certification students must receive a final evaluation of 3 or higher on every section on their final evaluation form.

Evaluation Scale
1: Cannot complete
2: Complete but unsafe
3: Safe but could be improved
4: Above average
5: Demonstration level

1.3.3 UTD Path to Completion

If a student does not earn certification the instructor may complete the UTD Path to Completion form. The student has one year to train and be evaluated to earn UTD certification. If more than one year has passed the student must repeat the complete course. Additional training may be at additional expense to the student.

1.3.4 UTD Training Categories

1. Recreational Diver Training
Within “non-decompression limits” (UTD Min Deco); no overhead environments; depths at or shallower than 130ft/39m.

2. Technical Diver Training
Depths deeper than 100ft/30m with planned decompression; no overhead environments.

3. Rebreather Diver Training
Use of closed circuit or semi-closed circuit rebreather.

4. Overhead Diver Training
Environments that prohibit a direct ascent to the surface.

5. Leadership Training
Instructor and divemaster programs.

6. Academic Training
Classes such as Technical Gas Blender, Cylinder and Valve Technician and other non-water training.

1.3.5 Training Procedures
The following procedures apply to all UTD courses. Specific individual course standards in Section 3 of this document will supersede this paragraph.

1. No standards or procedures of UTD may be violated.

2. An active status UTD instructor, qualified to teach the level of training being conducted, is to be present and in control during any and all activities, including academic reviews and in-water activities. Academic supervision may be accomplished via web conference.

3. Prior to certification, UTD certified instructors must ensure the student meets the minimum number of dives and performance requirements as stated in Section 3 of this document.

4. Dives that fulfill the requirements for one class may not be credited toward any other class. UTD Nitrox Diver is excluded from this paragraph. Nitrox certification dives may be combined with dives from any other course.

5. UTD instructors conducting a particular course are required to use the minimum equipment required of that course.

6. UTD rebreather instructors conducting a rebreather course are required to own that configuration of rebreather, have at 25 hours on the unit in the six months prior to conducting the course.

7. All decompression and/or stage cylinders are to be clearly labeled in accordance with the “Cylinder Marking Standards” set forth in the Cylinder Marking Section.

8. Good visibility is defined as the minimum distance in which divers can identify one another and communicate effectively using hand and light signals.

9. UTD certified Instructors should refrain from conducting training dives and drills in areas that contain:

- Delicate or environmentally sensitive formations
- Structures that are in relatively pristine condition
- Sensitive biological or archeological resources

1.4 General UTD Training Limits

The following limits apply to ALL UTD training (course specific limits can be found in the relevant sections):

1.4.1 Oxygen Limits

All training dives are to be conducted at an average working PPO_2 of 1.2. The maximum PPO_2 for any training dive is to be no greater than 1.4. Decompression or resting segments may incur a PPO_2 of 1.6. Standard industry variations to these limits are acceptable.

NOAA oxygen limits for CNS and Pulmonary exposure must be adhered to.

1.4.2 Equivalent Narcotic and Gas Density Limits

Maximum Equivalent Narcotic Depth for all training dives is 100 feet/30 meters, or 4 ATA/Bar (END is defined by the equation of END = (1-FHe) x ATA and assumes that oxygen is narcotic.

Maximum gas density of 5.7 grams/liter for all training dives.

1.4.3 Procedures for Demonstration and Critical Skills

UTD students will experience a variety of different levels of skills during training. Level one skills, or demonstration skills are single, non-compounded, non-surprise skills including, but not limited to out of air drills, simulated valve failures, and loss of mask.

Level two skills may be surprise but non-compounded; level three skills are compounded; and level four skills are complex multi-compounded.

1.4.4 Other Certifications

Issuing C-cards from other certification agencies following a UTD class

1. UTD courses may not be combined or taught at the same time with equivalent courses from other training agencies.
2. UTD instructors who enroll students in a UTD class may not issue comparative certification cards from another certifying agency in lieu of UTD certification.

1.4.5 Teaching and Rebreathers

UTD instructors may not teach UTD open circuit courses while using any type of rebreather with the following exception: certified UTD rebreather instructors may use a rebreather during the experience dives of a UTD open circuit technical class while using a rebreather.

1.4.6 Steel Cylinders

Use of double steel tanks/cylinders is prohibited for UTD instructors and students unless divers concurrently wear a balanced exposure system such as a drysuit. Steel tanks that are neutral or positively buoyant with 500psi/35bar are allowed.

1.4.7 Steel Stage and Deco Cylinders

No student or instructor who is enrolled in a UTD certification course may utilize steel stage cylinders or deco bottles.

1.5 Omitted

1.6 General Rules and Prerequisites for all UTD Courses

The following are course prerequisites for all UTD Courses (any additional and/or course specific course prerequisites, as well as any deviations from the following, will be listed under the appropriate course in Section 3 of this document):

1. Instructors teaching a class shall treat as students all persons diving under the instructor's or dive master's direct supervision or escort.

2. Specified student to instructor ratios will be maintained.

3. Paperwork – Submit online and to the instructor a printed and signed copy of UTD registration form which includes the wavier/release and medical history.

   If online submission is not available, a paper-only registration, waiver, and medical history may be used. It must be imaged and submitted to UTD HQ prior to certification. No form used for a UTD class or submitted to UTD may be back-dated.

   UTD Instructors are required to maintain copies of the above form for a minimum of five years. UTD HQ may request copies of signed registration, medical, and waiver at any time. These copies must be delivered within 15 business days of the request.

4. If any medical conditions are noted on the student's registration, waiver and medical history form the student must have a medical health care provider's sign-off prior to the start of any in-water training.

5. Complete the online classroom materials appropriate to course. Complete and fully understand the online or printed classroom examination if included in the course content.

6. The instructor may request additional information from the student, which may include a complete diving resume or other documents used to determine student capabilities.

7. Students must be physically fit and mentally stable.

8. Smoking is not permitted during UTD training activities.

1.7 Cylinder Marking Standards

1. All dive cylinders used in UTD training must adhere to regulations as detailed by local rules. Only required stickers should be affixed to the cylinders and will be placed so as not to detract from the MOD marking on the tank.

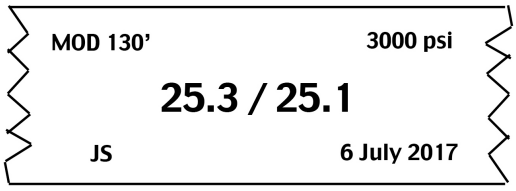
2. All decompression cylinders are to be marked with MAXIMUM OPERATING DEPTH (MOD) in markings approximately 3 inch/7.5 centimeter high. These numbers must be easily read by both the diver and the teammate.

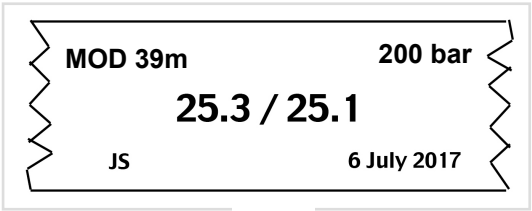
3. In countries where the metric system is widely adopted, this depth is to be in METERS and indicated by the use of “M” after the depth, e.g. a decompression cylinder containing a gas with a 50 % Oxygen content will be marked 21 M to indicate the maximum depth of twenty-one meters.

4. In countries were the imperial system is the norm, the cylinder marking will be in FEET and indicated by the use of “ft or ‘ ” after the MOD, e.g. a decompression cylinder containing a gas with a 50% Oxygen content will be marked 70 ft to indicate the maximum depth of seventy feet.

5. In all countries, in addition to the MOD, oxygen cylinders are to be marked horizontally down the cylinder with the word “OXYGEN,” in approximately 3 inch/7.5 centimeter high letters. No additional nitrox stickers or indication that the cylinder does not contain air are required.

6. All Scuba cylinders used in training must have an analyzation label near the tank neck that lists gas contents, date the gas was analyzed, the initials of the person who analyzed the gas, the MOD if applicable, and the current pressure in psi or bar. Oxygen and Helium contents must be noted to one decimal point, with oxygen content first, followed by helium if applicable, i.e. 25.3/25.1 indicates 25.3 percent oxygen and 25.1 percent helium. A nitrox mix will only have the oxygen content on the label.





2.0 Quality Assurance

The UTD quality assurance system is the checks and balance system for both students and instructors. Specifically, the following UTD forms are available for quality assurance: instructor and leadership evaluations, student evaluations, and student feedback forms.

2.1 UTD Instructor Evaluations

UTD students can find the links to a UTD student feedback form on the UTD website and are asked to fill this out following the completion of their training.

2.2 Instructor and Diver Membership Renewals

To maintain currency in all facets of diving theory and practice, UTD instructors and dive masters are required to maintain their UTD memberships. UTD divers are also strongly encouraged to maintain their UTD memberships.

2.3 Complaints

All complaints lodged against UTD instructors will be reviewed by UTD's Quality Assurance Board. The Quality Assurance Board will make a final decision regarding the status of the instructor.

2.3.1 Complaint Submission

Complaints may be filed against any UTD Instructor or UTD member. All complaints must reference a violation of a specific item in the UTD Standards and Procedures. All formal complaints must be submitted within three months of the alleged violation or the complaint will not be considered by The Quality Assurance Board.

To submit a complaint against a UTD Instructor or Member:

All complaints must be in writing and submitted to the Director of Quality Control at UTD Headquarters (qc@utdscubadiving.com). The statement must include:

1. Complainant's name and contact information
2. The date, time, and location of event or incident.
3. An eye-witness account of the incident or event and the names and contact information of any other witnesses.

Complaints may be submitted by registered mail or traceable carrier (such as Federal Express) to the UTD headquarters address, or by email to qc@utdscubadiving.com. All complaints submitted by email require an emailed confirmation from HQ to validate the complaint. Complaints not meeting the above requirements or submitted verbally or anonymously will not be investigated.

2.3.2 Complaint Procedure

1. Once a complaint is received the Quality Assurance Board will review the complaint. A written summary will be forwarded to the instructor or member in question. The charged member(s) must respond in writing within 30 days.

2. If the charged member does not respond to the written complaint, he/she will be suspended until the investigation is complete. At that point, the Quality Assurance Board has the option to complete its investigation without a response from the instructor or member.

3. Upon receipt of the response, the Quality Assurance Board may opt to dismiss the complaint, resolve by negotiation, or immediately suspend the member in question.

2.3.3 Penalties and Remedial Actions

UTD's Quality Assurance Board may issue a decision or agree to a resolution of the complaint by:

1. Private censure
2. Public censure
3. Educational review
4. Defined probationary period
5. Defined suspension
6. Revocation of membership and/or teaching privileges

All costs associated with instructor requalification are the responsibility of the instructor in being investigated.

2.3.4 Rights of Appeal

If any member presents new evidence regarding a formal complaint following an unfavorable decision by the Quality Assurance Board, that member(s) may formally ask for a new hearing of the matter by the same Quality Assurance Board. All appeals must be received in writing by the Quality Assurance Board within thirty days from the date the Quality Assurance Board sent the initial decision to the complainant(s). If no appeal is received the original decision of the Quality Assurance Board stands and the case is closed.

2.4 Conduct Policies and Procedures

1. UTD members and instructors must demonstrate financial responsibility when transacting business with UTD.

2. UTD instructors must process student evaluation and certifications in a reasonable and timely fashion, in no case longer than 30 days following completion of a class.

3. All correspondence within any online UTD Instructors' forum, including but not limited to private social media groups, Slack, etc., is to be considered confidential and private. This privacy is necessary to allow for freedom of expression between instructors. Any instructor who knowingly allows these discussions to become public may be subject to disciplinary action as outlined in the sections above.

4. All UTD instructors will maintain an appropriate professional attitude during any UTD certified activity.

5. UTD instructors must maintain DAN dive accident insurance or equivalent (if available in their region).

6. All UTD intellectual property including, but not limited to, UTD printed and online course materials, UTD branded videos and audio recordings, UTD Standards and Procedures, UTD Instructor Playbook, and UTD Student and Diver Procedures Manual, in addition to all UTD products and product designs, is wholly owned by UTD and may not be reproduced, rebranded, or remanufactured, in any way for any reason without express written permission of UTD. The terms of this paragraph do not expire and remain in effect in perpetuity, regardless of instructor or member status (active, inactive, suspended, etc.). This written permission from UTD may be revoked by UTD at any time for any reason.

7. If a UTD instructor is being formally investigated by any dive certifying agency they are associated with, including UTD, he/she may be suspended as a UTD instructor until proof is provided that the issue is resolved. If a UTD instructor is named in a law suit, either criminal or civil, based on actions as a dive professional, that UTD instructor will be suspended until that suit has been settled. The instructor in question may submit evidence and petition the UTD Quality Assurance Board in writing to waive the suspension prior to a settled outcome. If a UTD instructor is found responsible in a law suit, that instructor will be suspended immediately and may appeal to the Quality Assurance Board to waive the suspension. The Quality Assurance Board will respond to all petitions within sixty (60) days and all Quality Assurance Board decisions on the petition are final.

8. No UTD instructor or divemaster, past, present, active, or inactive, shall make any derogatory statement or comment in any public forum, including any and all social media outlets, about UTD, UTD training procedures, UTD Standards and Procedures, or any other UTD instructor. Any such comments regarding UTD training, methodologies, and instructors are to be presented in writing to the UTD Quality Assurance Board. These comments will be held in strict confidence and, if warranted, the Quality Assurance Board will investigate any and all allegations. Any UTD instructor found in violation of this paragraph may be suspended as a UTD instructor.

9. All UTD instructors and divemasters agree to the use by UTD of all video recordings and photographs taken of then, and/or recordings made of their voice or likeness, and/or written transcriptions of recordings, in whole or in part, in perpetuity. Any and all training, educational, and support materials written and/or recorded by any UTD instructor or divemaster for publication by UTD become the wholly owned property of UTD.

2.5 Records

UTD instructors will assure the student registration, waiver, and medical history forms are printed and signed prior to any in-water session. Instructors must maintain the following records (if applicable) for each student for a minimum of five years after completion of the class (these documents may be archived in electronic form):

1. Student Registration
2. Student Liability & Release & Assumption of Risk
3. Student Medical Questionnaire
4. Accident Report
5. Online Classroom Forms and Certificates

3.0 Standards and Procedures for UTD Classes

3.0-1 Minimum Equipment for all UTD Classes

All UTD open circuit certification classes can be conducted in either back mount - single or double cylinders, or side mount - single or double cylinders as appropriate or as otherwise indicated by individual course standards.

UTD Rock Bottom gas planning rules apply to ALL UTD classes.

3.0-2 Minimum Equipment for UTD Open Circuit Classes

1. Tanks/Cylinders: Back mount or side mount single or double cylinders. If side mount, the system must allow for long hose/necklace consistent with UTD gas donation technique and training “S-Drills."
2. Regulator system: Primary second stage with a donateable 5ft or 7ft / 1.5m or 2m hose stowed in a wrapped fashion around the diver’s neck, and a backup second stage bungeed around the diver’s neck in a necklace fashion.
3. Buoyancy compensator: rear inflation-type/wing or trim device
4. Backplate and harness system or BCD as noted above
5. At least one depth-measuring device
6. At least one time-keeping device
7. Compass
8. Mask and fins (fins must be appropriate to UTD propulsion techniques)
9. Minimum of one cutting device
10. One spool with minimum 70ft/21m line and one surface marker buoy (optional for OWD)
11. One primary light and one backup light (two backup lights for overhead) (optional for OWD
12. Notebook and writing utensil (optional for OWD)
13. Exposure suit appropriate for the duration of exposure

3.0-3 Minimum Equipment for UTD Rebreather classes

1. CCR, mCCR or pSCR configured as required by UTD rebreather standards.
2. Manual gas addition systems, for oxygen and diluent.
3. Oxygen injection solenoids are passive, set to low set point of 0.7ATA/bar
4. Tanks/cylinders/deco bottles: diluent gas appropriate to dive plus standard open circuit bailout. All deco and stage cylinders are pluggable with stage rigging and quick disconnects.
5. Regulator system: primary second stage with a donatable 3ft or 7ft / 1m or 2m hose stowed in a wrapped fashion around the diver’s neck and clipped to the right chest harness d-ring. The backup second stage is co-located with the bailout valve on the mouthpiece or as a necklace in the JJ and SF2 CCR factory training courses.
6. Buoyancy compensator/trim device: rear inflation-type/wing or trim device
7. At least one depth-measuring device
8. At least one time-keeping device
9. For CCR and mCCR at least two displays that reads PPO2 from three individual O2 sensors, a head up display attached to the front of the loop is allowed a secondary monitoring device.
10. For pSCR at least one display that reads PPO2 from at least one O2 sensor
11. Compass
12. Mask and fins (fins must be appropriate to UTD propulsion techniques)

13. Minimum of one cutting device
14. One spool with minimum 70ft/21m line and one surface marker buoy
15. One primary light and one backup light (two backup lights for overhead)
16. Notebook and writing utensil
17. Exposure suit appropriate for the duration of exposure

3-1 Recreational

3-101 Extreme Scuba Makeover

Purpose

UTD's Extreme Scuba Makeover is an entry level class designed to teach certified divers the foundational trim, buoyancy, and balance skills to be safe and comfortable in the water. This mini-class is structured to prepare divers for recreational diving and more advanced UTD classes. ESM incorporates basic scuba diving theory, knowledge and equipment configuration with precise diving skills.

Extreme Scuba Makeover is normally conducted over a 1-day period, and cumulatively involves a minimum of 6 hours of instruction including academics and pool/confined water to a maximum depth of 20'/6m using air as a breathing gas. ESM may be taught by UTD Instructors and UTD Divemasters (Divemasters may only teach this class to CERTIFIED DIVERS.)

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Minimum age 15 years [15-yr-old students must meet youth supervision requirements].
3. Must be able to swim a distance of at least 25 feet/5 meters on a breath hold.
4. Must demonstrate a swim of at least 500 yards/45 meters in less than 12 minutes without stopping and 10-minute survival swim/float.

Course Limits

1. General Training Limits as outlined in Section 1.4
2. Student to Instructor ratio is not to exceed 6:1 during land drill, surface exercises, and any direct in-water training. The Instructor has the discretion to reduce ratios based on environmental conditions.
3. Maximum training depth 30 feet/9m.
4. Standard gas is Air (21% O2)
5. Maximum three training scuba dives on one day, all dives to be during daylight hours
6. No overhead environment diving

Course Content

The in water skills will be conducted in a confined water environment. These skills will include, but not be limited to, snorkeling techniques, buoyancy, trim, one propulsion technique (frog kick).

Course requirements include three (3) hours of academic review and three (3) hours of confined water work.

Classroom Courses & Text

1. Required Online or Printed Classroom Materials – Extreme Scuba Makeover
2. Essentials of Recreational Diving/Open Water Diver DVD is recommended

Academic Topics

1. Equipment Configuration: mask, fins, snorkel, BCD, exposure suit, weights.

2. Applied Diving Physics
3. Applied Diving Physiology, Effects of Pressure, Hazards

Land Drills & Topics

1. Ear clearing
2. Mask clearing and remove/replace

Required Dive Skills & Drills, Confined Water and Open Water

1. Demonstrate proficiency in snorkeling procedures including swimming, duck diving, ear squeeze management, ascending, clearing the snorkel without lifting the head, clearing the mask, and surface survival skills.
2. Demonstrate good buoyancy and trim.
3. Be able to comfortably demonstrate at least one non-silting propulsion technique.
4. Demonstrate effective proficiency with ascent/descents.

3-110 Open Water Diver

Purpose

UTD's Open Water Diver course is an entry level class designed to teach **non-certified** divers to be safe and comfortable while enjoying the wonders of our oceans, lakes and other waters. This class is structured to prepare divers for recreational diving using proper equipment and proper diving techniques. The class incorporates basic scuba diving theory, knowledge and equipment configuration with precise diving skills and emergency procedures. This class not only teaches you how to use the equipment, but it teaches you how to be a safe and environmentally aware diver. UTD Open Water class also introduces the student to basic underwater photography.

The UTD Open Water course is normally conducted over a 4-day period, and cumulatively involves a minimum of 24 hours of instruction including academics, pool/confined water, and open water dives to a maximum depth of 60'/18m using air as a breathing gas.

Prerequisites

1. Must meet all course requirements as outlined in Section 1.
2. Minimum age 15 years.
3. Must be able to swim a distance of at least 50 feet/15 meters on a breath hold.
4. Must be able to swim a distance least 200 yards/185 meters in less than 14 minutes without stopping and 10-minute survival swim/float.

Course Limits

1. General Training Limits as outlined in Section 1
2. Student to Instructor ratio is not to exceed 6:1 during land drills, surface exercises, and any direct in-water training. The Instructor has the discretion to reduce ratios based on environmental conditions.
3. There is no student to instructor ratio limit during classroom lectures.
4. Maximum training depth 60 feet/18m.
5. Standard gas is air (21% O2)
6. Maximum three training scuba dives on one day, all dives to be during daylight hours, snorkeling dive is not counted as a dive.
7. No overhead environment diving

Course Content

The Open Water Diver class is designed to provide an introduction to UTD equipment configuration, basic scuba diving physics and physiology, minimum decompression, including history of decompression and practice, physics, physiology, tables, operational considerations, situational awareness, and understanding scuba environment.

The in water skills will first be conducted in a confined water environment prior to entering the open water. These skills will include, but not be limited to, snorkeling techniques, buoyancy, trim, propulsion, and basic 6, air sharing, rescue skills, photography and video skills (recommended).

Course minimum requirements include three (3) hours of academic review and three (3) hours of confined water work or completion of UTD Confined Water Diver or Junior Open Water Diver class; a minimum of one (1) snorkeling dive and four (4) open water dives, one (1) of which will be an orientation dive, two (2) will be skill dives and one (1) will be experience dive.

The initial dive will be conducted in water no deeper than 30 feet (15 meters) to evaluate the diver's ability and to transition from the pool to the open water environment while still maintaining the required skill levels. The last dive is an experience dive at depth but not in excess of course depth limitations.

Classroom Courses and Text

1. Required Online or Printed Classroom Materials – Open Water Diver
2. Essentials of Recreational Diving/Open Water Diver DVD is recommended

Academic Topics

1. Equipment Configuration: mask, fins, snorkel, BCD, exposure suit, weights and weighting systems, floats and flags, regulators, depth gauges, timing devices, lights
2. Applied Diving Physics
3. Applied Diving Physiology, Effects of Pressure, Hazards
4. Diving Planning, tables, computers
5. Understanding Compressed Gas Elimination
6. Dive Planning and Logistics
7. Scuba diving environments, topography, aquatic life, weather, hazards, boats

Land Drills & Topics

1. Situational Awareness
2. Dive team order and protocols, buddy awareness
3. Pre Dive Drill
4. Basic 6
5. Out of Air (OOA) procedures
6. Basic navigation skills
7. Underwater communication
8. Basic Rescue skills

Required Dive Skills & Drills, Confined Water and Open Water

1. All skills and drills as outlined in the general diving skills, Section 1.6
2. Demonstrate proficiency in snorkeling procedures including swimming, duck diving, ear squeeze management, ascending, clearing the snorkel without lifting the head, clearing the mask, and surface survival skills.
3. Demonstrate proficiency in procedures for gas failures, including dependent (S-Drills) and other out-of-air alternatives.
4. Demonstrate proficiency in basic 6 skills.
5. Demonstrate good buoyancy and trim.
6. Be able to comfortably demonstrate at least one non-silting propulsion technique.
7. Equipment familiarization, removal and replacement of weights and scuba gear.
8. Gas-sharing scenarios to include a direct ascent while conducting any potential
9. Decompression obligations.
10. Demonstrate basic underwater navigation techniques.
11. Demonstrate effective proficiency with ascent/descents.
12. Demonstrate proficiency with self-rescue skills
13. Demonstrate a diver tow on the surface for three (3) minutes.
14. Recommended – basic photography and video techniques

3-111 Recreational 1 Diver (Open Water + Nitrox)

Purpose

UTD's Recreational 1 is the same course as UTD Open Water but includes Nitrox certificaiton. The course is an entry level class designed to teach non-certified divers to be safe and comfortable while enjoying the wonders of our oceans, lakes and other waters. This class is structured to prepare divers for recreational diving using proper equipment and proper diving techniques while using Nitrox 32 as a breathing gas. The class incorporates basic scuba diving theory, knowledge and equipment configuration with precise diving skills and emergency procedures. This class not only teaches you how to use the equipment, but it teaches you how to be a safe and environmentally aware diver. UTD Recreational 1 class also introduces the student to basic underwater photography.

The UTD Open Water course is normally conducted over a 5-day period, and cumulatively involves a minimum of 28 hours of instruction including academics, pool/confined water, and open water dives to a maximum depth of 60'/18m using air as a breathing gas.

Prerequisites

Must meet UTD General Course Prerequisites as outlined in Section 1.
Minimum age 16 years.
Must be able to swim a distance of at least 50 feet/15 meters on a breath hold.
Must be able to swim a distance least 100 yards/95 meters in less than 12 minutes without stopping and 10-minute survival swim/float.

Course Limits

General Training Limits as outlined in Section 1.
Student to Instructor ratio is not to exceed 6:1 during land drills, surface exercises, and any direct in-water training. The Instructor has the discretion to reduce ratios based on environmental conditions.
There is no student to instructor ratio limit during classroom lectures.
Maximum training depth 60 feet/18m.
Standard gas is air and Nitrox 32.
Maximum three training scuba dives on one day, all dives to be during daylight hours, snorkeling dive is not counted as a dive.
No overhead environment diving

Course Content

The UTD Recreational 1 (Open Water Diver) class is designed to provide an introduction to UTD equipment configuration, basic scuba diving physics and physiology, minimum decompression, including history of decompression and practice, physics, physiology, tables, and operational considerations including a complete understanding of Nitrox as a breathing gas, situational awareness and understanding scuba environment.

The in water skills will first be conducted in a confined water environment prior to entering the open water. These skills will include, but not be limited to, snorkeling techniques, buoyancy, trim, propulsion, and basic 6, air sharing, rescue skills, photography and video skills (recommended).

Course minimum requirements include three (3) hours of academic review and three (3) hours of confined water work or completion of UTD Confined Water Diver or Junior Open Water Diver

class; a minimum of one (1) skin dive and four (4) open water dives, one (1) of which will be an orientation dive, two (2) will be skill dives and one (1) will be experience dive using Nitrox as a breathing gas.

The initial dive will be conducted in water no deeper than 30 feet (15 meters) to evaluate the diver's ability and to transition from the pool to the open water environment while still maintaining the required skill levels. The last dive is an experience dive at depth but not in excess of course depth limitations.

Classroom Courses and Text

Required Online or Printed Classroom Materials – Recreational 1 (Open Water Diver)
Essentials of Recreational Diving/Open Water Diver DVD is recommended

Academic Topics

Equipment Configuration: mask, fins, snorkel, BCD, exposure suit, weights and weighting systems, floats and flags, regulators, depth gauges, timing devices, lights
Applied Diving Physics
Applied Diving Physiology, Effects of Pressure, Hazards
Diving Planning, tables, computers
Understanding Compressed Gas Elimination
Breathing and analyzing Nitrox
Dive Planning and Logistics
Scuba diving environments, topography, aquatic life, weather, hazards, boats

Land Drills & Topics

Situational Awareness
Dive team order and protocols, buddy awareness
Pre Dive Drill
Basic 6
Out of Air (OOA) procedures
Basic navigation skills
Underwater communication
Basic Rescue skills

Required Dive Skills & Drills, Confined Water and Open Water

All skills and drills as outlined in the general diving skills, Section 1.5
Demonstrate proficiency in analyzing and labeling breathing gas.
Demonstrate proficiency in snorkeling procedures including swimming, duck diving, ear squeeze management, ascending, clearing the snorkel without lifting the head, clearing the mask, and surface survival skills.
Demonstrate proficiency in procedures for gas failures, including dependent (S-Drills) and other out-of-air alternatives.
Demonstrate proficiency in basic 6 skills.
Demonstrate good buoyancy and trim.
Be able to comfortably demonstrate at least one non-silting propulsion technique.
Equipment familiarization, removal and replacement of weights and scuba gear.
Gas-sharing scenarios to include a direct ascent while conducting any potential Decompression obligations.
Demonstrate basic underwater navigation techniques.
Demonstrate effective proficiency with ascent/descents.

Demonstrate proficiency with self-rescue skills
Demonstrate a diver tow on the surface for three (3) minutes.
Recommended – basic photography and video techniques

3-112 Advanced Open Water Diver

Purpose

The Recreational 2 (Advanced Diver) course is the next step for recreational divers to expand their diving to slightly deeper depths with more advanced gases. Recreational 2 (Advanced Diver) is a modular class structured to prepare divers for a wider range of environmental conditions and more advanced recreational diving using proper equipment and diving techniques

The class will also seek to incorporate teaching more advanced decompression theories and the use of SMBs for correct and safe ascent procedures when diving beyond 60'/18m. Recreational 2 (Advanced Diver) training focuses on expanding on the Recreational 1 or Open Water Diver class and is designed to cultivate and integrate some critical skill training while solidifying the essential skills, all required for safe deeper recreational diving.

The Recreational 2 (Advanced Diver) class is based around two parts with modules. Part one has is a personal skills development module and part two has three modules: Deep, Navigation, and Night. Recreational 2 (Advanced Diver) classroom materials cover all parts and modules. Part one must be completed prior to starting any in water training modules from part two of this course. The Personal Skills Module is mandatory and must be completed prior to any of the other modules, which can then be completed in any order.

The Personal Skills Module includes problem identification and resolution, building the capacity for progressively more challenging diving. In this class, students will be trained in the use of single or double tanks/cylinders and in the potential failure problems associated with them. This module is normally conducted over one pool session and two open water dives.

The Recreational 2 (Advanced Diver) Navigation Module addresses both natural navigation and the use of a compass for underwater navigation. The compass use skills dive must include at least two of the following activities: out and back, triangle, square, or compass course. This module includes two dives but the natural navigation dive may be combined with the Critical Skills module. The compass navigation skills dive may **NOT** be combined with any other dive.

The Recreational 2 (Advanced Diver) Deep Module includes gas planning and ascent strategies for dives to 100'/30m, along with the use of a surface marker buoy (SMB) and mid water ascent strategies. This module requires two dives to depths of 80-100'/24-30m. Level 2 critical skills may be run during this dive.

The Recreational 2 (Advanced Diver) Night Module includes one night dive and addresses proper air-sharing procedures at night, navigation, and loss of primary and backup lighting.

Each of the four UTD Recreational 2 (Advanced Diver) modules are normally conducted over a 1-2 day period, cumulatively involving a minimum of 32 hours of instruction including academics, pool/confined water, and open water dives. If completed as one contiguous class, the course is normally completed over three to four days.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Must be a minimum age of 18 years of age.
3. Must have taken the UTD Recreational 1 or UTD Open Water Diver or equivalent.

4. Must have a minimum of 25 dives beyond open water qualification, 10 of which are non-training dives to take Part Two of Recreational 2 (Advanced Diver). Enrollment in Part One (Person Skills Development Module) of Recreational 2 (Advanced Diver) immediately after Recreational 1 or Open Water Diver is allowed.
5. Must be able to swim a distance of at least 50 feet/15 meters on a breath hold.
6. Must be able to swim at least 200 yards/195 meters in less than 14 minutes without stopping.

Course Limits

1. General Training Limits as outlined in Section 1.4.
2. Student to Instructor ratio is not to exceed 6:1 during land drill, surface exercises, and any direct in-water training. The Instructor has the discretion to reduce ratios based on environmental conditions.
3. There is no student to instructor ratio limit during classroom lectures.
4. Maximum training depth 100 feet /30m
5. Standard gas is air
6. No overhead environment diving
7. No stage decompression

Classroom & Text

1. Required Online Classroom Materials – Advanced Open Water Diver

Academic Topics

1. Applied Diving Physics
2. Applied Diving Physiology
3. Diving Planning
4. Understanding Compressed Gas Elimination
5. UTD Equipment Configuration
6. Dive Planning and Logistics

Land Drills and Topics

1. Situational Awareness
2. Dive team order and protocols
3. Pre Dive Drill
4. Out of Gas procedures and Touch contact
5. Simulated Valve Failure procedures
6. Use of safety spools and surface marker buoys
7. Basic navigation skills

Required Dives Overview

1. A minimum of six dives are required
2. Conduct at least one night dive
3. Conduct at least two dives deeper than 80’/24m
4. Conduct navigation on at least two dives

Required Dive Skills and Drills After Completion of All Parts of Recreational 2 (Advanced Diver) Modules

1. All skills and drills as outlined in the general diving skills, Section 1.5.
2. Demonstrate proficiency in procedures for gas failures; including valve manipulation and gas-sharing.
3. Demonstrate proficiency in surface marker buoy deployment.
4. Demonstrate good buoyancy and trim.
5. Be able to comfortably demonstrate at least one propulsion technique appropriate for delicate and/or silty environments.
6. Demonstrate proficiency in the use of touch contact communication during out-of-gas situations. Returning to entry point.
7. Equipment familiarization.
8. Gas-sharing scenarios to include a gas-sharing horizontal swim for at least 200 feet/60 meters.
9. Gas-sharing scenarios to include a direct ascent while conducting any potential decompression obligations.
10. Demonstrate effective valve-management by going to buddy for OOA, shutting down a valve, and returning the valve to the open position.
11. Demonstrate effective proficiency with ascent/descents and deep stops.
12. Complete at least one night or low visibility dive and demonstrate the skills associated with light failures.
13. Complete at least two navigation skills that, at a minimum, includes following a compass heading for 30'/10m and returning on its reciprocal and a second course that has three waypoints with legs no less than 30'/10m in length.

3-113 Advanced Open Water and Recreational 2 Diver

Purpose

The Recreational 2 and Advanced Open Water Diver (Rec 2 and AOW) course is the next step for recreational divers to expand their diving to slightly deeper depths with more advanced gases. Rec 2/AOW is a modular class structured to prepare divers for a wider range of environmental conditions and more advanced recreational diving using proper equipment, diving techniques and breathing mixtures including a thorough knowledge of the use of Nitrox.

The class will also seek to incorporate teaching more advanced decompression theories and the use of SMBs for correct and safe ascent procedures when diving beyond 60'/18m. Rec 2/AOW training focuses on expanding on the Recreational 1 or Open Water Diver class and is designed to cultivate and integrate some critical skill training while solidifying the essential skills, all required for safe deeper recreational diving.

Rec 2/AOW has three modules: Deep, Navigation, and Night. Recreational 2 adds the Nitrox module.

Rec 2/AOW begins with a personal skills review that includes buoyancy, trim, propulsion, and basic emergency procedures.

The navigation module addresses both natural navigation and the use of a compass for underwater navigation. The compass use skills dive must include at least two of the following activities: out and back, triangle, square, or compass course. This module generally includes two dives – the navigation dives may be combined with other dives during the class.

The deep module includes gas planning and ascent strategies for dives to 100ft/30m, along with the use of a surface marker buoy (SMB) and mid water ascent strategies. This module requires two dives to depths of 80-100ft/24-30m. Level 1 and 2 critical skills may be run during this dive.

The night diver module includes one night dive and addresses proper air-sharing procedures at night, navigation, and loss of primary and backup lighting.

To complete the course at the Recreational 2 level requires inclusion of the nitrox module.

The Recreational 2 nitrox module includes the expanded use of nitrox 32 for extending bottom times. This module includes two dives: buoyancy control and toxing/unconscious diver recovery. The nitrox dives may be combined with any other dives from the Rec 2/AOW modules.

Each of the four UTD Rec 2/AOW modules are normally conducted over a 1-2 day period, cumulatively involving a minimum of 24 hours (AOW) or 32 hours (Rec 2) of instruction including academics, pool/confined water, and open water dives. If completed as one contiguous class, the course is normally completed over three to four days.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Must be a minimum age of 18 years of age.
3. Must have taken the UTD Recreational 1 or UTD Open Water Diver or equivalent.
4. Must have a minimum of 25 dives beyond open water qualification, 10 of which are non-training dives.
5. Must be able to swim a distance of at least 50 feet/15 meters on a breath hold.

6. Must be able to swim at least 200 yards/195 meters in less than 14 minutes without stopping.

Course Limits

1. General Training Limits as outlined in Section 1.4.
2. Student to instructor ratio is not to exceed 6:1 during land drill, surface exercises, and 4:1 during any direct open water training. The instructor has the discretion to reduce ratios based on environmental conditions.
3. There is no student to instructor ratio limit during classroom lectures.
4. Maximum training depth 100ft /30m
5. Standard gas (if completing as Rec 2) is nitrox 32.
6. No overhead environment diving
7. No stage decompression.

Classroom & Text

1. Required Online Classroom Materials – Recreational 2 (Advanced Diver)

Academic Topics

1. Applied Diving Physics
2. Applied Diving Physiology
3. Diving Planning
4. Understanding Compressed Gas Elimination
5. Gas planning with Nitrox (Rec 2)
6. Nitrox versus Other Gases
7. UTD Equipment Configuration
8. Dive Planning and Logistics

Land Drills and Topics

1. Situational Awareness
2. Dive team order and protocols
3. Pre Dive Drill
4. Out of Gas procedures and Touch contact
5. Simulated Valve Failure procedures
6. Use of safety spools and surface marker buoys
7. Basic navigation skills

Required Dives Overview

1. A minimum of six dives are required
2. Conduct at least one night dive
3. Conduct at least two dives deeper than 80’/24m
4. Conduct navigation on at least two dives
5. Utilize nitrox on at least two dives (Rec 2)

Required Dive Skills and Drills After Completion of All Parts of Recreational 2 (Advanced Diver) Modules

1. All skills and drills as outlined in the general diving skills, Section 1.5.

2. Demonstrate proficiency in procedures for gas failures; including valve manipulation and gas-sharing.
3. Demonstrate proficiency in surface marker buoy deployment.
4. Demonstrate good buoyancy and trim.
5. Be able to comfortably demonstrate at least one propulsion technique appropriate for delicate and/or silty environments.
6. Demonstrate proficiency in the use of touch contact communication during out-of-gas situations. Returning to entry point.
7. Equipment familiarization.
8. Gas-sharing scenarios to include a gas-sharing horizontal swim for at least 200 feet/60 meters.
9. Gas-sharing scenarios to include a direct ascent while conducting any potential decompression obligations.
10. Demonstrate effective valve-management by going to buddy for OOA, shutting down a valve, and returning the valve to the open position.
11. Demonstrate effective proficiency with ascent/descents and deep stops.
12. Complete at least one night or low visibility dive and demonstrate the skills associated with light failures.
13. Complete at least two navigation skills that, at a minimum, includes following a compass heading for 30'/10m and returning on its reciprocal and a second course that has three waypoints with legs no less than 30'/10m in length.

3-114 Recreational 3 (Advanced OW + Trimix 25/25)

Purpose

The Recreational 3 (Master Diver) course is a Non-Decompression (NDL) Normoxic trimix course structured to prepare divers for deeper recreational diving using proper equipment, diving techniques and standard Helium breathing mixtures (standard gases).

Recreational 3 training continues the Essentials of Recreational Diver and Recreational 2 (Advanced Diver) or equivalent skills and is designed to cultivate, integrate and expand those skills required for safer deeper recreational diving. The class will incorporate more advanced decompression theories and the use of correct ascent procedures along with problem identification/resolution while building the capacity for progressively more challenging diving. In this class, students will be trained in: (a) the use of single or double cylinders and in the potential failures associated with them; (b) the use of nitrox and normoxic trimix for extended bottom times; and (c) the use of Helium to minimize narcosis, CO2, gas density and post dive "nitrogen stress."

The UTD Recreational 3 (Master Diver) course is normally conducted over a two to four day period, and cumulatively involves a minimum of 24 hours of instruction including academics, pool/confined water, and open water dives to 130'/39m using Normoxic trimix 25/25 as a breathing gas. The final dives are "experience dives," where you will use your new skills while being "shadowed" by your instructor.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Must be a minimum age of 18 years of age.
3. Must have taken the UTD Recreational 2 (Advanced Diver) or Essentials of Recreational Diving or Essentials of Technical Diving or equivalent.
4. UTD Rescue and Emergency Procedures class or equivalent.
5. Must be UTD Nitrox certified or equivalent.
6. Must have a minimum of 50 dives beyond open water qualification 25 of which should be non-training dives.
7. Must be able to swim a distance of at least 50 feet/15 meters on a breath hold.
8. Must be able to swim at least 300 yards/275 meters in less than 14 minutes without stopping.

Course Limits

1. General Training Limits as outlined in Section 1.4.
2. Student to Instructor ratio is not to exceed 6:1 during land drill, surface exercises, or direct in-water training. The Instructor has the discretion to reduce ratios based on environmental conditions.
3. There is no student to instructor ratio limit during classroom lectures.
4. Maximum training depth 130 feet/39m.
5. Stay within no decompression limits.
6. No overhead environment diving.
7. Equivalent Narcotic Depth (END) of 100'/30m
8. Use of a standard UTD bottom mix, including Normoxic trimix 25/25 for dives deeper than 100'/30m.

Course Content

The UTD Recreational 3 (Master Diver) course is designed to provide a working knowledge of Nitrox and Normoxic trimix, including history of decompression and practice, physics, physiology, tables, (deco planning software) and operational considerations.

Course requirements include six (6) hours of academics and six (6) dives, four (4) will be critical skills training dives and the last two (2) will be experience dives deeper than 100'/30m. A Rescue & Emergency Procedures course must be completed prior to the certification being issued. The initial two (2) critical skills dives will be conducted in water no deeper than 40 feet (15 meters) to evaluate the diver's ability and to identify any deficiencies in critical skills. The two experience dives are to be Normoxic trimix dives at depth for experience, but not in excess of course depth limitations.

Classroom & Text

1. Required Online Classroom Materials – Recreational 3
2. Technical/Essentials of Recreational Diving & Essentials of Tech DVD are recommended

Academic Topics

1. Applied Diving Physics
2. Applied Diving Physiology
3. Diving Planning
4. Understanding Compressed Gas Elimination
5. Introduction to Normoxic trimix
6. Normoxic trimix versus Other Gases
7. UTD Equipment Configuration
8. Dive Planning and Logistics

Land Drills & Topics

1. Situational Awareness
2. Dive team order and protocols
3. Pre Dive Drill
4. OOA's, and Touch contact
5. Simulated Valve Failure procedures
6. Use of safety spools and lift bag
7. Basic navigation skills

Required Dives Overview

1. Normoxic trimix with Critical Skills - conduct at least four critical skills dives
2. Conduct at least two experience dives deeper than 100'/30m with a max depth of 130'/39m

Required Dive Skills & Drills

1. All skills and drills as outlined in the general diving skills, Section 1.5.
2. Demonstrate proficiency in procedures for gas failures including valve manipulation and gas-sharing.
3. Demonstrate proficiency in lift bag/surface marker buoy deployment.
4. Demonstrate good buoyancy and trim.

5. Demonstrate proficient in navigation.
6. Be able to comfortably demonstrate at least one propulsion technique appropriate for delicate and/or silty environments.
7. Demonstrate proficiency in the use of touch contact communication during out-of-gas situations. Returning to entry point.
8. Equipment familiarization.
9. Gas-sharing scenarios to include a gas-sharing horizontal swim for at least 200'/60m.
10. Gas-sharing scenarios to include a direct ascent while conducting any potential decompression obligations.
11. Demonstrate effective valve-management by going to buddy for OOA, shutting down a valve, and returning the valve to the open position.
12. Demonstrate effective proficiency with ascent/descents and deep stops.

NOTE: A Recreational 3 student may take a UTD Stage MINI class that will allow for an Oxygen bottle for ascent. This does not increase bottom time – it is only for cleaner ascent profiles. The UTD Stage MINI with Oxygen may only be taught by UTD Technical Instructors.

3-150.1 Essentials of Recreational Diving

Purpose

The Essentials of Recreational Diving course gives every diver an opportunity to learn the personal skills needed to participate in a unified team and be in the water as a “thinking diver.” The class may be conducted in either back mount or side mount with or without Nitrox training.

First up is buoyancy. Precise buoyancy, combined with a horizontal trim position, is the hallmark of control in the water. You’ll learn to effortlessly hold your position in the water, which leads to the next set of skills: propulsion, where you’ll learn five different kicks that eliminate silting and increase your control, allowing you to move both forward and backward. Other skills include proper air sharing procedures, team protocols, gas planning, ascent strategies, and much more.

This class is the point of entry for all previously certified divers and is the prerequisite for all other recreational UTD classes (except UTD Open Water and Rec 1). Essentials of Recreational Diving is designed to cultivate the core techniques required by all sound diving practice, regardless of level or environment. Essentials of Recreational Diving acts as a bridge between conventional training and UTD’s more demanding curriculum.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Must be a minimum age of 15 years of age. No doubles or Nitrox until 16 years of age.
3. Must be a certified open water diver from a recognized training agency
4. Must be able to swim a distance of at least 50 feet/15 meters on a breath hold.
5. Must be able to swim at least 300 yards/275 meters in less than 14 minutes without stopping.

Course Limits

1. General training limits as outlined in Section 1
2. Student to Instructor ratio is not to exceed 6:1 during land drill, surface exercises, and any direct in-water training. The Instructor has the discretion to reduce ratios based on environmental conditions
3. There is no student to instructor ratio limit during classroom lectures.
4. Maximum depth 60 feet/18 meters or 100 feet/30 meters if the student is Nitrox certified.
5. No stage decompression
6. No overhead environment diving

Course Content

The Essentials of Recreational Diving is normally conducted over a 3-day period. Combining lecture, practical (in-water) sessions and video debriefings, this course focuses on cultivating the foundational skills required by all diving practice. It is focused on increasing diving fun by reducing stress and increasing diver proficiency through proper control of buoyancy, trim, propulsion, teamwork, and other UTD principles. This is the introductory course for certified divers into the realm of UTD style diving.

Course requirements include a minimum of 4 (4) hours of academics and four (4) in water sessions.

Classroom & Text

1. Required Online Classroom Materials – Essentials of Recreational Diving
2. Essentials of Recreational Diving DVD is recommended

Academic Topics

1. UTD organization
2. Teaching Methodology
3. Essentials Diving Principles
4. Diving Proficiency with in water skills
5. Buoyancy Control and Trim
6. Streamlining & Equipment Configuration
7. Propulsion Techniques
8. Air Sharing and Valve drill procedures
9. Situational Awareness
10. Communication
11. Gear Configuration
12. Breathing Gas Overview, Nitrox if applicable
13. Dive Planning & Gas Management

Land Drills & Topics

1. Dive team protocols
2. S-drill and Valve Drill
3. Equipment fit and function
4. Propulsion Techniques
5. Pre-Dive Drills

Dive Skills & Objectives

1. All skills and drills as outlined in the general diving skills as outline in Section 1.5
2. Emergency Out of Air management, including a direct ascent to the surface
3. Demonstrate the ability to deploy a lift bag/surface marker
4. Demonstrate good buoyancy and trim
5. Demonstrate proficiency with Basic 6 Open water skills
6. Kicking techniques including one that is appropriate for silty and/or delicate environments
7. Familiarization with UTD configuration and equipment in back mount or side mount

3-150.3 Essentials of Tech Diving

Purpose

The Essentials of Technical Diving is the first step to move you from ‘Recreational’ diver to ‘Technical’ Diver. Essentials of Technical Diving gives you all the personal skills you need to move to a training program that increases both depth and time in the water. The class may be conducted in either back mount or side mount with or without Nitrox training.

Essentials of Technical Diving takes place in 20-30’ / 6-10m of open water. It is a personal skills class that prepares you for technical depths by advancing your control of buoyancy, trim, and propulsion, while introducing you to more advanced air sharing procedures and deco bottle handling protocols. The class also introduces you to more advanced gas planning and more complicated ascent strategies.

Essentials of Technical Diving acts as a bridge between conventional training and UTD’s more demanding technical curriculum and focuses on training you to become a “Thinking Diver,” regardless of whether you are going to move forward with technical training, or are just looking to become a more highly skilled recreational diver. If Essentials of Tech is taught with Nitrox academics, a Nitrox certification to a maximum depth of 60’/18m is included.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6.
2. Must be a minimum age of 18 years of age.
3. UTD Recreational 2 (Advanced Diver) or equivalent.
4. Minimum of 50 dives beyond open water certification, 25 of which must be non-training dives.
5. All participants must be able to swim at least 300 yards/275 meters in 14 min or swim at least 600 yards/550 meters in 18 minutes with mask & fins.
6. All participants must be able to swim a distance of at least 50' (15m) on a breath hold or demonstrate an air share swim where the OOA diver swims at least 50' (15m) to the donating diver.
7. All participants must tow a diver in full equipment, in the environment they will be diving in, for 10 minutes.
8. All participants must demonstrate the rescue of a diver simulating oxygen toxicity.

Course Limits

1. General training limits as outlined in Section 1.4
2. Student to Instructor ratio is not to exceed 6:1 during any in-water training and should be adjust down according to conditions and visibility
3. There is no student to instructor ratio limit during classroom lectures.
4. Maximum depth 60 feet/18 meters
5. Standard gas is air or Nitrox 32
6. Stay within no decompression limits
7. No overhead environment diving

Course Content

The Essentials of Tech is normally conducted over 3-day period combining lecture, practical (in-water) sessions and debriefings with a minimum of 24 hours of instruction. This course focuses on cultivating the foundational skills required by all diving practice. It is focused on increasing

diving fun by reducing stress and increasing diver proficiency through proper control of buoyancy, trim, propulsion, teamwork, and other UTD principles. This course also introduces a student to the handling of one decompression bottle.

Course requirements include a minimum of eight (8) hours of academics and four (4) in water sessions.

Online Classroom Courses & Text

1. Online Classroom Materials – Essentials of Tech
2. Essentials of Tech DVD is recommended

Academic Topics

1. UTD organization
2. Teaching Methodology
3. Essentials of Tech Diving Principles
4. Diving proficiency with in water skills
5. Buoyancy Control and Trim
6. Streamlining & Equipment Configuration
7. Propulsion Techniques
8. Air Sharing and Valve Drill procedures
9. Situational Awareness
10. Communication
11. Gear Configuration
12. Breathing Gas Overview including Nitrox if applicable
13. Dive Planning & Gas Management

Land Drills & Topics

1. Dive team protocols
2. S-drill and Valve Drill
3. Equipment fit and function
4. Propulsion Techniques
5. Pre-Dive Drills
6. Use of safety spools and lift bag
7. Deco bottle use (Deploy and Stow)
8. Basic navigation skills

Required Dive Skills & Drills

1. All skills and drills as outlined in the general diving skills as outlined in Section 1.5
2. Emergency Out-of-Air management, including a direct ascent to the surface
3. Demonstrate the ability to deploy a lift bag/surface marker
4. Demonstrate the ability to deploy and stow a deco/stage bottle regulator
5. Demonstrate good buoyancy and trim
6. Demonstrate proficiency with Basic 6 Open water skills
7. Demonstrate a valve shutdown drill
8. Kicking techniques including one that is appropriate for silty and/or delicate environments, back-kick, helicopter turn.
9. Familiarization with UTD configuration and equipment – back mount or side mount
10. Demonstrate proficiency with Toxing Diver rescue.
11. Remove and replace scuba gear at surface.

3-150.4 Essentials of Rebreather Diving

Purpose

The Essentials of Rebreather Diving course is designed to cultivate the essential techniques required by all sound CCR diving practices. It functions as a crossover for all **previously** certified CCR divers to apply UTD principals, configuration and philosophy to their diving practices, Essentials of Rebreather Diving acts as a bridge between conventional CCR training and UTD's training. This course is not a rebreather certification class.

Prerequisites

1. Must meet UTD General Course **Prerequisites** as outlined in Section 1.6.
2. Must be a minimum age of 21 years of age.
3. Must be a certified Diver.
4. Minimum of 25 non-training dives on CCR.
5. All participants must be able to swim at least 300 yards/275 meters in 14 min or swim at least 600 yards/550 meters in 18 minutes with mask & fins.
6. All participants must be able to swim a distance of at least 50' (12m) on a breath hold or demonstrate an air share swim where the OOA diver swims at least 50' (15m) to the donating diver.
7. All participants must be able to tow a diver in full equipment, in the environment they will be diving in, for 10 minutes.
8. All participants must demonstrate the rescue of a diver simulating oxygen toxicity or unconsciousness

Course Limits

1. General training limits as outlined in Section 1.4
2. Student to Instructor ratio is not to exceed 6:1 during any in-water training and should be adjust down according to conditions and visibility
3. There is no student to instructor ratio limit during classroom lectures.
4. Maximum depth 60 feet/18 meters
5. Standard bailout gases.
6. No staged decompression
7. No overhead environment diving

Course Content

The Essentials of Rebreather is normally conducted over 5-day period combining lecture, practical (in-water) sessions and debriefings. It involves a minimum of 24 hours of instruction encompassing classroom, 8 hours or 480 min of in-water work and 8 hrs debriefing video review. This course focuses on cultivating the foundational skills required by all CCR diving practice. It is focused on increasing diving fun by reducing stress and increasing diver proficiency through proper control of buoyancy, trim, propulsion, teamwork, and other UTD principles. This course also requires a student to handle one stage or decompression bottle.

Course requirements include a minimum of eight (8) hours of academics and eight (8) in water sessions.

Texts

1. Online classroom materials - Essentials of Rebreather Diving

2. mCCR or pSCR checklist
3. mCCR gas planning worksheet
4. Operating manuals appropriate to the rebreather being used
5. Essentials of Technical DVD is recommended

Academic Topics

1. UTD organization
2. Teaching Methodology
3. CCR Diving Principles
4. Diving proficiency with in water skills
5. Buoyancy Control and Trim
6. Streamlining & Equipment Configuration
7. Propulsion Techniques
8. Air Sharing and Valve Drill procedures
9. Situational Awareness
10. Communication
11. Gear Configuration
12. Breathing Gas Overview
13. Dive Planning & Gas Management

Land Drills & Topics

1. Dive team protocols
2. Trim & Buoyancy
3. Propulsion Techniques
4. Basic 6 CCR skills
5. S-drill and Valve Drill
6. Equipment fit and function
7. Rescue Techniques
8. Pre-Dive Drills
9. Use of safety spools and lift bag
10. Deco bottle use (Deploy and Stow)
11. Basic navigation skills

Required Dive Skills & Drills

1. All skills and drills as outlined in the general diving skills as outlined in Section 1.5
2. Understand and develop skills to master the priority assignment philosophy
3. Emergency Out-of-Air management, including a direct ascent to the surface
4. Demonstrate the ability to deploy a lift bag/surface marker
5. Demonstrate the ability to deploy and stow a deco/stage bottle regulator
6. Demonstrate good buoyancy and trim
7. Demonstrate proficiency with Basic 6 Rebreather skills
8. Demonstrate a valve shutdown drill
9. Kicking techniques including one that is appropriate for silty and/or delicate environments, back-kick, and helicopter turn.
10. Familiarization with UTD configuration and equipment
11. Demonstrate proficiency with Toxing Diver rescue.

Equipment Requirements

1. Rebreather: A Fully-closed circuit rebreather that is configurable.

2. Tank/Cylinders: Students are required to use tanks/cylinders that provide sufficient diluent and bailout to meet rock bottom standards and have a single outlet valve, which allows for the use of a single first stages and allows the diver to manipulate the tank valves.
    a. A single oxygen bottle with a single first stage is used to supply the rebreather with O2.
    b. A single diluent bottle with a single first stage is used to supply the rebreather with air. All dives must start with a minimum of 40cf/1200 liters of gas in bailout cylinder.

Regulator: A single first-stage from the diluent tank must supply the diver with bailout gas. This must supply the Bail out valve (BOV) and at least one open circuit regulator, a 7 foot/2 meter long hose with second stage for air share donation **Purpose**s. This must also supply the BCD and Drysuit where applicable. There must be a pressure gauge on the diluent system to identify diluent/bailout gas quantity.

3. 1 Oxygen bottle with first stage and inlet hose to supply rebreather
4. Buoyancy Compensator: Back-mounted wings, mated with a harness and back plate
5. At least one depth-measuring device
6. Two timekeeping devices
7. Decompression tables
8. Mask and fins: fins must be of non-split variety
9. At least one cutting device
10. Underwater slate or Wet Notes
11. One reel/spool, with 100 feet/30 meters of line, per diver
12. Exposure suit appropriate for the Duration of exposure
13. At least one surface marker buoy per diver

3-150.5 Essentials of Scientific Diving

Purpose

The Essentials of Scientific Diving course integrates UTD's diving practices with the scientific community's need to work underwater. This course cultivates the essential techniques required by all sound diving practice and introduces the student to the basic techniques associated with scientific diving.

Prerequisites

1. Must meet UTD General Course **Prerequisites** as outlined in Section 1.6
2. Must be a minimum age of 16 years of age.
3. Must be a certified open water diver from a recognized training agency
4. Must be able to swim a distance of at least 50 feet/15 meters on a breath hold.
5. Must be able to swim at least 300 yards/275 meters in less than 14 minutes without stopping.

Course Limits

1. General training limits as outlined in Section 1
2. Student to Instructor ratio is not to exceed 6:1 during land drill, surface exercises, and any direct in-water training. The Instructor has the discretion to reduce ratios based on environmental conditions.
3. There is no student to instructor ratio limit during classroom lectures.
4. Maximum depth 60 feet/18 meters or 100 feet/30 meters if the student is Nitrox certified.
5. No stage decompression.
6. No overhead environment diving.

Course Content

The Essentials of Scientific Diving course is a skills-based class and is normally conducted over a 4 to 5 day period. It involves a minimum of 32 hours of instruction, encompassing classroom review, in-water work and debriefings. Course requirements include a minimum of eight (8) hours of academics and eight (8) in water sessions.

Essentials of Scientific Diving combines lecture, practical (in-water) sessions and debriefings. This course focuses on cultivating the foundational skills required by all scientific diving practice. It is focused on increasing diving efficiency by reducing stress and increasing diver proficiency through proper control of buoyancy, trim, propulsion, teamwork, and other UTD principles, and integrates these diving practices with the task loading associated with working underwater.

Classroom & Text

1. Required Online Classroom Materials – Essentials of Scientific Diving
2. Essentials Gas Planning Worksheet (PDF)
3. Essentials of Recreational Diving DVD is recommended

Academic Topics

1. UTD organization
2. Teaching Methodology
3. Essentials Diving Principles

4. Diving Proficiency with in water skills
5. Buoyancy Control and Trim
6. Streamlining & Equipment Configuration
7. Propulsion Techniques
8. Air Sharing and Valve drill procedures
9. Situational Awareness
10. Communication
11. Gear Configuration
12. Breathing Gas Overview
13. Dive Planning & Gas Management
14. Introduction to Scientific Diving
15. Environmental Awareness and Navigation
16. Working Underwater
17. Tools of Scientific Diving
18. Data Collection
19. Species Identification
20. Animal Collection
21. Small Boat Operations
22. Hazards of Scientific Diving
23. Introduction to Aquariums

Land Drills & Topics

1. Dive team protocols
2. S-drill and Valve Drill
3. Equipment fit and function
4. Propulsion Techniques
5. Tools of Scientific Diving
6. Small Boat Safety
7. Navigation and Environmental Awareness
8. Pre-Dive Drills

Dive Skills & Objectives

1. All skills and drills as outlined in the general diving skills as outline in Section 1.5
2. Demonstrate superb team awareness skills
3. Emergency Out of Air management, including a direct ascent to the surface
4. Demonstrate the ability to deploy a lift bag/surface marker
5. Demonstrate good buoyancy and trim
6. Demonstrate proficiency with Basic 6 Open water skills
7. Kicking techniques including one that is appropriate for silty and/or delicate environments
8. Familiarization with UTD configuration and equipment
9. Basic Navigation and Environmental Awareness
10. Basic Search and Retrieval Techniques
11. Use of tools of scientific diving, including but not limited to
    a. Transects
    b. Quadrats
    c. Collection Bags
    d. Lift Bags
    e. Marking Devices
12. Basic techniques of Data Collection, Species Identification, and Animal Collection
13. Small Boat Operations

Specialties & Minis

3-200 Ratio Deco

Purpose

The ratio deco course is designed to study, discuss, analyze and understand a wide variety of existing decompression models and their pro's and con's. During the course you will develop a strategy wherein you apply the best of each of these theories to your personal diving application. Ratio Deco is a methodology that allows a diver to apply various existing decompression models into a cohesive strategy that the team can apply during a dive. It is decompression "on the fly." Ratio Deco is NOT a scientific decompression model or theory, rather it is an application of those theories.

Using Ratio Deco requires a series of requisite parameters including, but not limited to, complete situational awareness, cohesive team diving, standardized UTD back-gases and deco mixtures, and a thorough understanding of the Ratio Deco methodology and all its parameters, along with the discipline to stay within those limitations. The user of Ratio Deco must acknowledge the need to build real-life, in-water experience with the through study, practice and an awareness of risk vs. benefit.

This class covers in detail all the aspects of Ratio Deco, or what is better known as "Decompression on the Fly." We start with the history of decompression modeling, Henry's law, Haldanean theory, US Navy, Workman, Bulhmann, VPM and RGBM, and most importantly how we apply these to personal decompression strategy. You will also understand the overall concept of a safe and repeatable ascent strategy and how to essentially do "Deco On the Fly". The class will end with examples and exercises.

This is an academic-only class normally conducted over one 8-hour day.

The goals of Ratio Deco training are:

1. To develop the student's practical knowledge and understanding of current and past decompression theories.
2. To enable the student to create an organized and safe plan for decompression without primary reliance on traditional tables or computers.
3. To create a "thinking" decompression diver who is able to adjust for changes in a dive profile during the dive.

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Prerequisites

1. Must meet UTD General Course **Prerequisites** as outlined in Section 1.6
2. Minimum age of 18
3. Completed UTD registration process
4. UTD Recreational 1 (Open Water Diver) or equivalent
5. Nitrox certification is not required but is strongly recommended.

Course Limits

1. As this is an academic-only class, standard ratios do not apply.

Course Content

This is an academic-only class conducted over eight (8) classroom hours. There are no dives required for this class. The course covers current and past decompression models, including the history of decompression. Coverage includes gas laws, the physics and history of dissolved gas decompression models, the physics and history of bubble theory models, “Min Deco” profiles for non-decompression diving, Ratio Deco profiles for decompression diving, decompression curves, “on the fly” decompression planning, standard gas mixes, the benefits and dangers of oxygen, nitrogen, helium, and carbon dioxide, and planning your personal decompression strategy.

Online Classroom Courses & Text

1. Online Classroom Materials – Ratio Deco
2. Ratio Deco Worksheet
3. Ratio Deco Text

Academic Topics

1. History of Decompression Modeling
2. Henry’s Law
3. Haldane, Bulhmann, and dissolved gas models
4. VPM, RGBM, and bubble models
5. Min-deco
6. 1:1 Ratio Deco
7. 2:1 Ratio Deco
8. 3:1 Ratio Deco
9. Deco “On the Fly”
10. Your personal decompression strategy
11. The five contingencies
12. Safe diving practices

Required Dive Skills & Drills

No dives required.

Equipment Requirements

No equipment required.

3-202 Nitrox Diver

Purpose

This is a class for certified divers that covers in detail current uses of “back-gas” breathing mixtures with an oxygen content of 32%. Breathing Nitrox allows for extended bottom times and/or a safety margin over air in depths to 100’/30m. The class covers the practical and theoretical aspects of breathing high-oxygen mixtures, gas laws and physics, physiology, gas blending and safety, maximum operating depths, “Min-deco” procedures, and an academic introduction to decompression diving.

The UTD Nitrox course is normally conducted over a 2 day period, and cumulatively involves a minimum of 16 hours of instruction including academics and two dives. The dives focus on precise buoyancy control and emergency procedures. The two Nitrox class dives may be combined with dives from other UTD classes such as Essentials of Technical Diving.

For a more advanced Nitrox class that includes critical skills training to a depth of 100’/30m see the UTD Recreational 2 (Advanced Diver + Nitrox) class.

The goals of Nitrox training are:

1. To develop the student's practical knowledge and understanding of breathing gas mixtures with an oxygen content 32%.
2. To enable the student to create an organized and safe dive plan using Nitrox breathing mixes.
3. To enable to student to understand the safety and ramifications of mixing and purchasing Nitrox breathing mixes.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. MINImum age of 16
3. Completed UTD registration process
4. UTD Recreational 1 (Open Water Diver), or equivalent
5. Must be able to swim a distance of at least 50 feet/15 meters on a breath hold.
6. Must be able to swim at least 300 yards/275 meters in less than 14 minutes without stopping.

Course Limits

1. General Training Limits as outlined in Section 1.4.
2. Student to Instructor ratio is not to exceed 6:1 during land drill, surface exercises, and any direct in-water training. The Instructor has the discretion to reduce ratios based on environmental conditions.
3. There is no student to instructor ratio limit during classroom lectures
4. Maximum training depth 60 feet / 18m.
5. Standard gas is Nitrox 32. No Helium.
6. No stage decompression
7. No overhead environment diving
8. UTD Standard Equipment requirement may be waived for Nitrox Class

Course Content

The course covers the history of Nitrox breathing mixes, uses and misconceptions about Nitrox, the physics of gas laws and partial pressures, physiology and oxygen toxicity, gas planning including rock bottom planning and decompression strategies, Min-deco dive planning, blending and mixing Nitrox breathing gases, analyzing gas mixtures, and safe diving practices.

Online Classroom Courses & Text

1. Online Classroom Materials – Nitrox Diver
2. Nitrox Test

Academic Topics

1. The definition of Nitrox
2. Misconceptions about Nitrox
3. Basics of breathing gases
4. Understanding partial pressure
5. Physiology, medical issues, and oxygen toxicity
6. Maximum operating depth
7. Equivalent air depth
8. Dive planning with Nitrox, using tables and/or dive computers
9. Min-deco
10. Gas mixing and blending, obtaining Nitrox
11. Standard gas mixes, gas analysis, cylinder labeling
12. Safe diving practices

Land Drills & Topics

1. Situational Awareness
2. Dive team order and protocols
3. Pre Dive Drill
4. OOA's, and Touch contact
5. Basic navigation skills

Required Dive Skills & Drills

1. All skills and drills as outlined in the general diving skills, Section 1.5.
2. Demonstrate good buoyancy and trim.
3. Be able to comfortably demonstrate at least one propulsion technique appropriate for delicate and/or silty environments.
4. Equipment familiarization.
5. Gas-sharing scenarios to include a gas-sharing horizontal swim for at least 200'/60 meters.
6. Gas-sharing scenarios to include a direct ascent.
7. Demonstrate effective proficiency with ascent/descents and deep stops.
8. Demonstrate a rescue of a diver simulating oxygen toxicity.

3-203 Rescue and Emergency Procedures (Rescue Diver)

Purpose

Rescue and Emergency Procedures may be one of the most valuable courses any diver can take. The Rescue Diver course is designed to prepare the student for a variety of emergency situations and is centered around both self-rescue and buddy-rescue. Self-rescue skills begin with accident avoidance, dive planning, comfort in the water under stressful situations, and equipment failures. Buddy-rescue skills include missing diver and search protocols, multiple air-sharing situations, lost mask/no visibility situations, assisting tired, panicked, disoriented, or unconscious divers at depth and on the surface, and clear communications. The student completing this Rescue class will be more comfortable in the water and will be much more alert in preventing small situations from becoming full-fledged emergencies.

The Prerequisites for the UTD Rescue Diver course include First Aid/CPR/AED/Oxygen administration certifications from a recognized agency. In order for the UTD Rescue Diver certification to remain valid, the UTD card holder must maintain a current First Aid/CPR/AED/Oxygen certification with a two-year expiration date, and/or have taken and passed a First Aid/CPR/AED/Oxygen refresher within the prior two years.

The UTD Rescue course is normally conducted over a 2 to 3 day period, and cumulatively involves a minimum of 18 hours of instruction.

Prerequisites

Must meet UTD General Course Prerequisites as outlined in Section 1.6
Must be a minimum age of 18 years of age.
Must have taken the UTD Recreational 2 (Advanced Diver) or equivalent.
Must have completed, within the prior two years, a First Aid/CPR/AED/Oxygen administration course from a recognized agency.
Must have a minimum of 25 dives beyond open water qualification, 10 of which must be non-training dives.
Must be able to swim a distance of at least 50 feet/15 meters on a breath hold.
Must be able to swim at least 300 yards/275 meters in less than 14 minutes without stopping.

Course Limits

General Training Limits as outlined in Section 1.4.
Student to Instructor ratio is not to exceed 6:1 during land drill, surface exercises, and any direct in-water training. The Instructor has the discretion to reduce ratios based on environmental conditions.
There is no student to instructor ratio limit during classroom lectures.
Maximum training depth 60 feet (18m)
Standard gases are Air or Nitrox 32
No overhead environment diving
No stage decompression

Course Content

The UTD Rescue course is designed to provide a complete understand of self-rescue techniques, buddy-rescue techniques, search and rescue procedures, accident prevention and avoidance, and dive planning.

Course requirements include six (6) hours of academics and four (4) dives, three (3) of which will be critical skill dives and one (1) will be an experience dive simulating a search and recovery effort.

A pool session or confined water session will take place prior to any open water dives. The initial two (2) open water dives will be conducted in water no deeper than 40 feet (15 meters) during which time critical rescue skills will be introduced. The final dive will put the student in a simulated situation where he or she will be required to initiate and coordinate a search effort followed by an underwater rescue, surface tow, and extraction.

Classroom & Text

1. Required Online Classroom – Rescue Diver
3. Essentials of Recreational Diving & Essentials of Tech DVD are recommended

Academic Topics

Accident prevention and avoidance
First aid and CPR, temperature related problems, panic, drowning and near drowning
Decompression sickness/lung over-expansion injuries
Gas toxicity
Marine life injuries
Stress and shock, exhaustion
Diving fitness
Leadership during emergencies, neurological exams
Accident management plan for local dive area

Land Drills & Topics

1. Pre-dive briefing, problem/risk recognition and avoidance, visual and audible signals
2. Out of air and air-sharing protocols
3. Panicked diver protocols
4. Extractions and carries
5. First aid for severe bleeding, fractures, serious injuries, shock, first aid, AED, O2
6. Walk-through of simulated search, rescue, extraction, and first aid

Required Dive Skills & Drills

All skills and drills as outlined in the general diving skills, Section 1.5.
Demonstrate proficiency the use of rescue equipment, including surface marker buoys, lift bags, floats, backboards, etc.
Self-rescue techniques, including low air, free flowing regulator, underwater communications, lost mask.
Demonstrate effective valve-management by going to buddy for OOA, shutting down a valve, and returning the valve to the open position.
Buddy rescue techniques, including out-of-air situations, air sharing, panicked diver, fatigued diver, cramping diver, rapid or shallow breathing diver, equipment removal
Surface rescue techniques for responsive diver and panicked diver, 2 methods of towing
Unconscious diver recovery from a depth of at least 30’/10m.
Toxing diver recovery from a depth of at least 30’/10m.
Assisting a diver who has lost control of buoyancy (negative and positive).
Search procedures for a lost diver.
Buddy separation, lost buddy procedures.
Gas-sharing scenarios to include a gas-sharing horizontal swim for at least 200 feet/60 meters.

Gas-sharing scenarios to include a direct ascent while conducting any potential decompression obligations.
Guide a no-mask buddy to the surface, be guided to the surface without a mask, both scenarios while conducting any potential decompression obligations.
Surface tow a diver simulating unconsciousness w/rescue breathing for 5 minutes.
Surface tow a diver in full equipment, in the environment they will be diving, for 10 minutes.
Extract a tired diver and an unconscious diver from a boat and shore.
Simulated search, rescue, extraction, first aid.

3-204 First Aid/CPR/AED/O2

Purpose

The First Aid/CPR/AED/O2 course is designed to study, discuss, analyze and understand a wide variety of scenarios to prepare the student to be a competent first responder in a medical emergency.

There are four sections to this course;

- First Aid – Trauma, Assessments, and treatments for soft tissue, muscular-skeletal, neurological, punctures/bites/stings, bloodborne pathogens, cardiovascular and respiratory emergencies, decompression illness and other diving maladies. There is also information on emergency planning and response plans.
- CPR – Cardio-pulmonary Resuscitation, including one and two-person CPR, child CPR, rescue breathing and associated barriers, and CPR following spinal or cervical injuries.
- AED – Use and operation of an Automated External Defibrillator.
- O2 Provider – Use and operation of oxygen delivery systems, barriers and masks.

The online classroom and downloadable Treatment Guide cover all aspects of the course. The in-person portion of the course covers the practical training necessary to be a first responder for the above emergencies.

It should be noted that this is not Emergency Medical Technician (EMT) or Paramedic training. This course is designed around first response and stabilizing a patient/victim until higher level medical care arrives.

The in-person portion of this program is an academic-only class (no in-water training) normally conducted over one 8-hour day.

The goals of First Aid/CPR/AED/O2 training are:

1. To provide the student with the tools to be a competent first responder to simple medical emergencies and to provide care until a higher level medical care arrives.
2. To provide the awareness of “Check, Call, Care.” In other words, the scene and situation must be safe for the first responder to avoid the situation where the responder is injured, leaving and additional victim in need of care.
3. To provide the understanding that the student must act as a first responder ONLY within his/her level of training.

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Prerequisites

1. Minimum age of 16
2. Completed UTD registration process

Course Limits

1. As this is an academic-only class, standard in-water ratios do not apply.

Course Content

This is an academic-only class conducted over eight (8) classroom hours. There are no dives required for this class. The course covers First Aid/CPR/AED/O2 at the “first-responer” level.

Online Classroom Courses & Text

1. Online Classroom Materials – First Aid/CPR/AED/O2
2. Downloadable Treatment Guide

Academic Topics

1. First Aid
2. Trauma
3. Assessments
4. Treatments for soft tissue, muscular-skeletal, neurological, punctures/bites/stings, blood borne pathogens, cardiovascular and respiratory emergencies, decompression illness and other diving maladies.
5. Emergency planning and response plans
6. CPR
7. AED
8. Oxygen use

Required Dive Skills & Drills

1. No dives required.

Equipment Requirements

1. Basic first aid kit
2. CPR mannequins
3. AED with training mode
4. Emergency oxygen kit

3-206 Scooter/DPV

Purpose

This unique class is designed to share the essential principles of diving with a Scooter, or Diver Propulsion Vehicle. The class reviews the critical skills that apply when operating a scooter in recreational realms. This is an excellent class, no matter which type of scooter or DPV you use. You will learn not only how to correctly operate a scooter but also basic maintenance and simple repairs.

In addition to simply sharing the FUN of scooter/DPV diving, the Scooter 1 class instructs divers in the critical aspects of scooter diving, increasing diver fun and efficiency while reducing stress and diver risk. Skills will focus on: improving diver proficiency and awareness while scootering, scooter team communication, scooter buoyancy control, effective scooter risk evaluation and efficient dive planning. We also include scooter care and upkeep for those who own their scooter as well as techniques for proper balance, weight and towline sizing.

This class is conducted over three days with 24 hours of instruction including 8 hours of academic work and four dives.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6.
2. Minimum age of 18.
3. UTD Recreational 2 (Advanced Diver) certification or equivalent.
4. Minimum of 25 logged dives.

Course Limitations

1. General Training Limits as outlined in Section 1.4
2. All dives are to maintain a working PO2 of no greater than 1.4
3. Max depth during class of 100’ / 30m
4. Standard gases are air and Nitrox 32
5. Double or Single tank configuration
6. Long hose primary, and necklace style backup regulator hose configuration
7. Instructor to student ratio maximum 6:1 in the class.

Course Contents

In this class you will learn the fundamental skills associated with scooter diving. The Scooter presentation expressed in this section provides the foundation upon which all future scooter diving will require – all essential elements of the scooter beginning with the motor, the basic mechanical components, battery burn time management and culminating in a detailed discussion respecting gas management protocols. Other sessions are designed to introduce all the essential and critical skills such as learning to balance the scooter, how to properly weight the scooter for proper buoyancy characteristics and suggested towline sizing. Proper balance and trim are essential to learning to use a scooter correctly, in addition to learning to turn, stop, start and deal with the scooter while still maintaining good awareness. You will also learn and practice important skills such towing the scooter and other scooter divers. You will also be introduced to additional critical skills relating to scooter based diving such as dealing with an OOA emergency, failed scooters, runaway scooters.

Online Classroom Courses & Text

1. Online Classroom Materials – Scooter 1
3. Scooter DVD is recommended

Academic Topics:

1. UTD organization
2. Situational Awareness
3. Scooter/DPV Diving
4. Types including Ride Behind & Ride On
5. Riding Positioning for Personal & Team
6. Buoyancy of a Diver Propulsion Vehicle or Scooter
7. Streamlining
8. Towing Equipment & Scooter
9. Parts of Scooter
10. Maintenance
11. Assembly and Disassembly
12. Ascending Speeds
13. Propeller Wash
14. Propeller Entanglements
15. Dealing with Flow
16. Dive Planning
17. Gas Management
18. Time
19. Distance
20. Comfort
21. Depth Monitoring
22. Emergency Planning

Land Drills & Topics

1. Divers Location
2. Starting/Stopping
3. Maneuvering
4. Loss of Gas
5. Loss of Vehicle
6. Loss of Team mate
7. Loss of Control
8. Having too much fun

Required Dive Skills & Drills

1. All skills and drills as outlined in the general diving skills as outlined in Section 1.5
2. Demonstrate good buoyancy and trim
3. Steering a course with LH and RH Turns, ascending and descending
4. Swimming with a dead Scooter/DPV
5. Being towed by another Scooter/DPV diver
6. Being towed by another Scooter/DPV diver while towing your dead Scooter/DPV
7. Gas matching & planning for a Scooter/DPV team
8. Gas sharing while towing
9. Emergency Out of Air management, including a direct ascent to the surface
10. Hovering with a non-running Scooter/DPV

Equipment Specifications

1. All equipment noted in paragraph 3.0
2. Tow-behind style scooter (X-Scooter, Silent Submersion, Tekna, Mako Oceanic)
3. Tow harness

3-208 Scubatics Competition Diver

Purpose

Scubatics is a series of maneuvers similar to the aerobatic maneuvers done by an air show pilot, but performed underwater by a Scuba Diver or Skin Diver who is being moved through the water using a Diver Propulsion Vehicle, or Scooter.

Scubatics divers compete in shallow, confined water performing a series of lines, pivots, loops, rolls, and turns. Each maneuver will be graded by a panel of trained judges based on trajectory, trim, aesthetics, and difficulty; the diver with the highest score at the end of the contest wins. Prizes are award for first, second, and third place in each category of competition.

This class orients the diver to Scubatic competition, rules and regulations, DPV use, and safety. It also begins the training process by introducing the primary Scubatic maneuvers.

This class may be taken by either Scuba Divers or Skin Dive/Apnea Divers and is normally conducted over one day with a total of eight hours of academic and confined water instruction.

The goals Scubatics Competition training are:

1. To develop the student's understanding of the rules and regulations of Scubatic competition.
2. To enable the student to safely use a DPV, or scooter, in shallow, confined water.
3. To qualify and certify students to participate in International Scubatics Federation certified competition and training camps.

Prerequisites

1. Minimum age of 16
2. Completed UTD registration process

Course Limits

1. Course takes place in confined water
2. Scuba divers may be in traditional Backmount of sidemount or Scubatics gear configuration
3. Skin Divers/Apnea Divers may choose whether or not to use a snorkel

Course Content

The Scubatics Competition Diver course introduces the student to the Standards and Procedures, Rules and Regulations, and Judging Criteria of the International Scubatics Federation. The class will review the Scubatics Diagramming System and the Catalog of Maneuvers, along with the Scubatics gear configuration.

The student will be introduced to the Scubatic maneuvers in confined water, will learn how to manage and maintain a DPV/scooter, and will begin to join maneuvers together into a Scubatics competition sequence.

Course requirements include a minimum of eight (8) hours of academics and water sessions.

Online Classroom Courses & Text

1. International Scubatics Federation Standards and Procedures
2. Scubatics 1 DVD recommended

Academic Topics

1. International Scubatics Federation organization
2. History of Scubatics
3. Rules and Regulations
4. The maneuvers
5. The catalog of maneuvers
6. Equipment configurations
7. Judging criteria
8. Scubatics sequences
9. Scooter maintenance
10. Scubatics gear Configuration
11. Contest operating procedures
12. Competition techniques

Land Drills & Topics

1. Walking through the Scubatics sequence
2. Emergency procedures
3. Scooter use and maintenance
4. Pre-dive checks
5. Ascending maneuvers with a scooter and lung over-expansion prevention

Required Dive Skills & Drills

1. Basic scuba or skin dive skills, proper weighting
2. Emergency procedures with the scooter, runaway, etc.
3. Lines, pivots, rolls, turns, loops
4. Ascending maneuvers and breathing
5. Combining maneuvers into a sequence
6. Positioning and the Scubatics box
7. Scooter use and safety

Equipment Requirements

All Scubatics Scuba divers are to be outfitted with single tank open circuit equipment. Tank size may vary from 6 cu ft to 80 cu ft.

Required Equipment for the Scuba category includes:

1. Mask
2. One first stage regulator
3. One second stage regulator
4. One submersible pressure gauge attached to the first stage
5. One scuba cylinder any size 6 cu ft to 80 cu ft
6. One scooter, or DPV

3-210 Survey & Recovery Diver

Purpose

The Purpose of the Survey & Recovery Diver class is to act as full specialty certification in the techniques of conducting open water surveys. This is not a cave survey class. This class teaches a certified recreational diver the proper skills, knowledge, planning, organization, procedures, techniques, problems, hazards and enjoyment of conducting surveys in the open water environment. The certification limitations of the diver/student, once completed, are based on their current level of certification.

The goals of Survey & Recovery Diver training are to:

1. To develop the students' practical knowledge and understanding of conducting a survey in open water.
2. To develop the students' practical knowledge of lifting objects from the sea floor.
3. To enable the student to setup, organize and safely conduct surveys & recovery dives at their current level of Recreational/Technical certification.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Minimum age of 16
3. Completed UTD registration process
4. UTD open water certification, or higher or equivalent
5. Standard gases are used.

Course Content

This class requires a minimum of four (4) hours of academics, three (3) hours of dry runs and at least two (2) in-water dives. These must be a combination of demonstration/critical skills and experience dives. Additional training and dives are at the discretion of the instructor and are based on the level of training the student is seeking.

Course Limits

1. General Training Limits as outlined in Section 1.4
2. All dives are to maintain a working PO2 of no greater than 1.4
3. Instructor to student ratio maximum 6:1 in the class
4. There is no student to instructor ratio limit during classroom lectures.

Course requirements include a minimum of four (4) hours of academics, three (3) of dry runs and two (2) in water sessions.

Online Classroom Courses & Text

1. Online Classroom Materials – Survey & Recovery MINI
2. Recreational Gas Planning Worksheet

Academic Topics

1. UTD organization

2. Diving proficiency with in water skills
4. Buoyancy control and trim
5. Streamlining and equipment configuration
6. Propulsion techniques
7. Air sharing and valve procedures
8. Situational awareness
9. Communication
10. Gear configuration
11. Breathing gas overview
12. Dive planning and gas management
13. Guideline usage
14. Lift bag usage

Land Drills & Topics

1. Dive team protocols
2. Air sharing drills
3. Guideline usage
4. Search patterns/grids patterns
5. Rigging a lift bag & lift bag usage
6. Pre-dive drills

Required Dive Skills and Drills

1. All skills and drills as outlined in the general diving skills as outline in Section 1.5
2. Emergency out of air management
3. Demonstrate the ability to deploy a lift bag
4. Demonstrate the ability to deploy a lift bag surface marker
5. Demonstrate good buoyancy and trim
6. Demonstrate the ability to deploy a guideline
7. Demonstrate the ability to setup search patters
8. Kicking techniques including one that is appropriate for propulsion

Equipment Requirements

Backmount or Sidemount equipment configuration approved by UTD.

Required Equipment:

1. All equipment noted in paragraph 3.0

3-220 SMB/Surface Marker Buoy MINI

Purpose

The Purpose of the UTD SMB MINI is to introduce and train a diver in the proper use of a surface marker buoy. This MINI presumes the student is certified to at least the open water level with an internationally recognized training agency.

Prerequisites

Must meet UTD General Course Prerequisites as outlined in Section 1.6
Minimum age of 15.
Completed UTD registration process.
Certified as at least a UTD Recreational 1 (Open Water Diver) or equivalent.
Standard gases are used.

Course Content

This class requires a minimum of two hours of academics and dry runs and at least one in-water skills dive. Additional training and dives are at the discretion of the instructor.

The course focuses on cultivating the skills associated with SMB deployment including buoyancy control, emergency procedures, and care and maintenance.

Course Limits

General Training Limits as outlined in Section 1.4
All dives are to maintain a working PO2 of no greater than 1.4
Instructor to student ratio maximum 6:1
There is no student to instructor ratio limit during classroom lectures

Online Classroom Courses & Text

Online Classroom Materials - SMB/Surface Marker Buoy
Essentials of Recreational Diving DVD is recommended

Academic Topics

What is an SMB
Small, medium, large
Why we use it...boat, free ascent, etc.
How we carry it
How to deploy
How much gas to add
Proper breathing

Land Drills & Topics

Setup and configuration of SMB
Normal operations
Failures
Care and Maintenance

Required Dive Skills and Drills

Demonstrate good buoyancy and trim
Deploy SMB from neutral position
Normal ascent
Recover SMB

Equipment Requirements

Oral inflation surface marker buoy
Spool with minimum 40ft/12m line
Bolt snap

3-221 Propulsion MINI and/or Back Kick MINI

Purpose

The Purpose of the UTD Propulsion MINI and/or Back Kick MINI is to introduce and train a diver in the proper techniques of non-silting propulsion and positioning kicks.These MINIs presume the student is certified to at least the open water level with an internationally recognized training agency.

Prerequisites

Must meet UTD General Course Prerequisites as outlined in Section 1.6
Minimum age of 15.
Completed UTD registration process.
Certified as at least a UTD Recreational 1 (Open Water Diver) or equivalent.
Standard gases are used.

Course Content

This class requires a minimum of two hours of academics and dry runs and at least one in-water skills dive. Additional training and dives are at the discretion of the instructor.

The course focuses on cultivating the propulsion skills to successfully manage a back kick and/or other non-silting propulsion techniques.

Course Limits

General Training Limits as outlined in Section 1.4
All dives are to maintain a working PO2 of no greater than 1.4
Instructor to student ratio maximum 6:1
There is no student to instructor ratio limit during classroom lectures

Online Classroom Courses & Text

Online Classroom Materials - Propulsion MINI

Academic Topics

Reasons for non-silting and positioning kicks.

Land Drills & Topics

Propulsion Techniques
Positioning Kicks
Forward Kicks
Backward Kick

Required Dive Skills and Drills

Demonstrate good buoyancy and trim
Perform a positioning kick while maintaining neutral buoyancy
Normal ascent while holding position

Equipment Requirements

Non-split fins

3-222 Night Diver MINI

Purpose

The Purpose of the UTD Night Diver MINI is to introduce and train a diver in the proper techniques for night diving. This MINI presumes the student is certified to at least the open water level with an internationally recognized training agency.

Prerequisites

Must meet UTD General Course Prerequisites as outlined in Section 1.6
Minimum age of 15.
Completed UTD registration process.
Certified as at least a UTD Recreational 1 (Open Water Diver) or equivalent.
Standard gases are used.

Course Content

This class requires a minimum of two hours of academics and dry runs and at least one in-water skills dive. Additional training and dives are at the discretion of the instructor.

The course focuses on cultivating the normal and emergency procedures associated with night diving including buoyancy control, light management, and emergency procedures.

Course Limits

General Training Limits as outlined in Section 1.4
All dives are to maintain a working PO2 of no greater than 1.4
Instructor to student ratio maximum 6:1
There is no student to instructor ratio limit during classroom lectures

Online Classroom Courses & Text

Online Classroom Materials - Night Diver
Essentials of Recreational Diving DVD is recommended

Academic Topics

The night environment
Primary lighting
Light signals
Backup lighting
Night navigation
Hazards
Emergencies

Land Drills & Topics

Light management
Light signals

Required Dive Skills and Drills

Demonstrate good buoyancy and trim
Proper descents and ascents
Light management and signals
Light failures
Other emergencies

Equipment Requirements

Minimum one primary and one backup light per teammate.

3-223 Navigation MINI

Purpose

The Purpose of the UTD Navigation MINI is to introduce and train a diver in the proper techniques for navigating underwater by both natural features and compass. This MINI presumes the student is certified to at least the open water level with an internationally recognized training agency.

Prerequisites

Must meet UTD General Course Prerequisites as outlined in Section 1.6
Minimum age of 15.
Completed UTD registration process.
Certified as at least a UTD Recreational 1 (Open Water Diver) or equivalent.
Standard gases are used.

Course Content

This class requires a minimum of two hours of academics and dry runs and at least one in-water skills dive. Additional training and dives are at the discretion of the instructor.

The course focuses on cultivating the normal and emergency procedures associated with navigation including buoyancy control, natural navigation, compass navigation, and emergency procedures.

Course Limits

General Training Limits as outlined in Section 1.4
All dives are to maintain a working PO2 of no greater than 1.4
Instructor to student ratio maximum 6:1
There is no student to instructor ratio limit during classroom lectures

Online Classroom Courses & Text

Online Classroom Materials - Navigation
Essentials of Recreational Diving DVD is recommended

Academic Topics

Natural navigation
The compass
Compass navigation
Hazards
Emergencies

Land Drills & Topics

Compass Navigation
- Out and back
- Square pattern
- Triangular pattern

Dead reckoning

Natural features navigation
Lost procedures

Required Dive Skills and Drills

Demonstrate good buoyancy and trim
Compass patterns:

- Out and back
- Square pattern
- Triangular pattern

Natural navigation
Lost procedures

Equipment Requirements

One compass with rotating bezel per teammate.

3-244 Technical Gas Blender

Purpose

This is an academic and hands-on class that prepares the student to blend breathing gas mixtures utilizing varying oxygen and helium contents. The class addresses the properties of the gases, common blending techniques, and safety.

The goals of Technical Gas Blender training are:

1. To develop the student's practical knowledge and understanding of mixing and blending high pressure breathing gases that include various amounts of oxygen and helium, preparing the student to safely fill back gas and decompression cylinders.
2. To enable the student to understand both mathematical and computerized methods of establishing various breathing gas mixes.
3. To create in the student a method of gas blending that is organized, safe, and repeatable.

Prerequisites

1. Must meet UTD General Course
2. as outlined in Section 1.6
3. Minimum age of 21
4. Complete the UTD registration process

Duration

This is an academic and hands-on class conducted over a minimum of eight (8) hours. There are no dives required for this class.

Course Limits

1. As this is an academic-only class, standard ratios do not apply, there is no student to instructor ratio limit during this course.
2. Instructor must ensure student learning.

Course Content

The UTD Gas Blender course is normally taught over eight hours. Approximately half of that time is spent reviewing the **Academic Topics** related to technical gas blending. The balance of the time is spent on the practical aspects of gas mixing and fill station procedures.
The course covers all the common methods of mixing and filling Scuba breathing cylinders including, but not limited to, partial pressure blending, continuous flow blending, the use of membrane systems, and cascading and boosting gases. Topics also include analyzing the gases and labeling procedures for tanks.

Also covered are the safety aspects of handling potentially dangerous gases such as oxygen.

Online Classroom Courses & Text

1. Online Classroom Materials – Technical Gas Blender
2. Technical Gas Blender Worksheet
2. Technical Gas Blender Text

Academic Topics

1. An overview and history of gas blending
2. Air filtration and purity standards
3. The gases: oxygen, nitrogen, helium, CO2, argon
4. UTD Standard gases
5. The effects of pressure and heat
6. Oxygen handling procedures and safety
7. Partial pressure blending
8. Continuous flow blending
9. Membrane-style blending
10. Formulas and methods of establishing Nitrox mixes
11. Formulas and methods of establishing Helium mixes
12. Fill station and transfill systems and methodology
13. Gas boosters
14. Analyzing oxygen and helium levels in breathing gases
15. Scuba cylinder labeling protocols

Required Dive Skills & Drills

1. No dives required.

Equipment Requirements

Technical Gas Blending equipment including, but not limited to:

1. A supply source of Helium and Oxygen
2. A supply source of compressed air
3. Transfill and blending whips
4. Oxygen and Helium gas analyzers
5. Tank labeling materials

3-246 Cylinder and Valve Technician

Purpose

This is an academic hands on class that prepares the student to visually inspect and oxygen clean aluminum and steel SCUBA cylinders and valves. The class addresses the proper care, maintenance and inspection of cylinders and valves, as well as proper safety precautions.

The goals of Cylinder and Valve Technician training are:

1. To develop the student's practical knowledge in the proper procedures of visually inspecting SCUBA cylinders, preparing them to visually inspect cylinders to determine whether they are suitable for use
2. To develop the student's practical knowledge in the proper procedures of visually inspecting SCUBA cylinder valves and manifolds, preparing them to visually inspect cylinders to determine whether they are suitable for use.
3. Create a visual inspection method that is consistent, safe, organized and meets Compressed Gas Association Standards, US Department of Transportation Regulations, Transport Canada's Regulations and manufacturers' recommendations

Prerequisites

1. Must be 21 years of age.

Duration

This is an academic and hands on class conducted over a minimum of eight (8) hours. There are no dives required for this class.

Course Limits

1. As this is an academic-only class, standard ratios do not apply, there is no student to instructor ratio limit during this course.
2. Instructor must ensure student learning.

Course Content

Prior to the start of the course, the student will complete the UTD academic program. Following that, the Cylinder and Valve Technician Course is normally taught over eight hours. Approximately half of that time is spent reviewing cylinder inspection criteria per CGA Standards, DOT and TC Regulations and manufacturers' recommendations as well as oxygen cleaning procedures for the safe handling of cylinders and valves that will be exposed to high percentage oxygen mixes. The balance of the course will focus on the practical application of cylinder and valve inspection, allowing the students to inspect and oxygen clean their own cylinders and valves under the direct supervision of a UTD Instructor.

Online Classroom Courses and Text

1. Online Classroom Materials – Cylinder and Valve Technician
2. Cylinder and Valve Technician Inspection Checklist
3. Cylinder and Valve Technician Quick Reference Guide

Academic Topics

1. Visual inspection standards
2. Oxygen cleaning standards

3-248 Regulator Repair and Field Maintenance

Purpose

This is an academic and hands-on class that prepares the student to perform basic maintenance and field service of first and second stage Scuba regulators.

The goals of Regulator Repair and Field Maintenance training are:

1. To develop a basic understanding of how first and second stages work.
2. To be able to perform basic routine and emergency maintenance and simple repairs.

Prerequisites

1. Must meet UTD General Course **Prerequisites** as outlined in Section 1.6
2. Minimum age of 21
3. Complete the UTD registration process

Duration

This is an academic and hands-on class conducted over a minimum of eight (8) hours. There are no dives required for this class.

Course Limits

1. As this is an academic-only class, standard ratios do not apply, there is no student to instructor ratio limit during this course.
2. Instructor must ensure student learning.

Course Content

The UTD Regulator Repair and Field Maintenance course is normally taught over two to three days. Approximately half of that time is spent reviewing the **Academic Topics** related to repair and maintenance. The balance of the time is spent on the practical aspects of disassembling, reassembling, and testing regulators.

The course covers a limited number of brands of regulators and focuses more on concepts than brand specifics. This class does not “factory certify” someone to service regulators commercially.

Online Classroom Courses & Text

1. Online Classroom Materials – Regulator Repair and Field Maintenance
2. Schematic Drawings
3. Regulator Repair and Field Maintenance test

Academic Topics

1. An overview of how first and second stages work
2. Breakdown of first stages
3. Assembly of first stages
4. Breakdown of second stages

5. Assembly of second stages
6. Routine maintenance

Required Dive Skills & Drills

1. No dives required.

Equipment Requirements

Regulator Repair and Field Maintenance equipment including, but not limited to:

1. First stage regulators
2. Second stage regulators
3. Hand tools
4. Test gauges

3-280 Drysuit MINI

Purpose

The Purpose of the UTD Drysuit MINI is to introduce and train a diver in the use of a dry suit. This MINI presumes the student is certified to at least the open water level with an internationally recognized training agency.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Minimum age of 15.
3. Completed UTD registration process.
4. Certified as at least a UTD Recreational 1 (Open Water Diver) or equivalent.
5. Standard gases are used.

Course Content

This class requires a minimum of four hours of academics and dry runs and at least two in-water skills dives. Additional training and dives are at the discretion of the instructor.

The course focuses on cultivating the practical, normal, and emergency skills required by all dry suit divers, including buoyancy control, emergency procedures, and care and maintenance.

Course Limits

1. General Training Limits as outlined in Section 1.4
2. All dives are to maintain a working PO2 of no greater than 1.4
3. Instructor to student ratio maximum 6:1
4. There is no student to instructor ratio limit during classroom lectures

Online Classroom Courses & Text

1. Online Classroom Materials - Dry Suit
2. Essentials of Recreational Diving DVD is recommended

Academic Topics

1. Dry Suit Diving Principles
2. Types and materials
3. Undergarments
4. Care and maintenance
5. Inflation systems
6. Buoyancy Control
7. Normal diving procedures
8. Emergency procedures

Land Drills & Topics

1. Setup and configuration of inflation system
2. Dry suit fit and function
3. Donning and doffing.
4. Failures - small leaks

5. Failures - major leaks
6. Failures - valve failures
7. Failures - inflation system failures
8. Care and Maintenance

Required Dive Skills and Drills

1. Demonstrate good buoyancy and trim
2. Normal descents and ascents
3. Use of valves
4. Loss of inflation system
5. Simulated minor leak
6. Simulated major leak
7. Recovery from gas in feet
8. Simulated loss of exhaust valve

Equipment Requirements

1. All equipment noted in paragraph 3.0.
2. Drysuit.
3. Electric dry suit heating recommended
4. Undergarments

3-281 Doubles MINI

Purpose

The Purpose of the UTD Doubles MINI is to introduce and train a diver in the use of either double tank back mount or side mount configurations.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Minimum age of 16.
3. Completed UTD registration process.
4. Certified as at least a UTD Recreational 2 (Advanced Diver) or equivalent.
5. Standard gases are used.

Course Content

This class requires a minimum of four hours of academics and dry runs and at least two in-water skills dives. Additional training and dives are at the discretion of the instructor.

The course focuses on cultivating the practical, normal, and emergency skills required by all double tank divers, including buoyancy control, emergency procedures, and care and maintenance.

Course Limits

1. General Training Limits as outlined in Section 1.4
2. All dives are to maintain a working PO2 of no greater than 1.4
3. Instructor to student ratio maximum 6:1
4. There is no student to instructor ratio limit during classroom lectures

Online Classroom Courses & Text

1. Online Classroom Materials – Doubles MINI
2. Essentials of Recreational Diving DVD is recommended

Academic Topics

1. Double Tank Diving Principles
2. Proper weighting
3. Function, type, and purpose of the isolatable manifold
4. Normal diving procedures
5. Emergency procedures

Land Drills & Topics

1. Setup and configuration of either double tank sidemount or backmount system
2. Valve drill
3. The “9 Failures” or “12 Failures”
4. Care and Maintenance for the system

Required Dive Skills and Drills

1. Demonstrate good buoyancy and trim
2. Normal descents and ascents
3. Demonstrate effective valve-management by switching regulators, shutting down a valve in less than 15 seconds and returning the valve to the open position again in less than 15 seconds and/or completing a complete valve-drill in 2 minutes.
4. Procedures for gas failures (back gas) including valve manipulation, air-sharing, and regulator switching as appropriate

Equipment Requirements

1. All equipment noted in paragraph 3.0.
2. Complete DIR/UTD back mount or side mount (Z-system) system

3-282 Side Mount MINI

Purpose

The Purpose of the UTD Side Mount MINI is to introduce and cross over a diver in the use of the Z-System Side Mount configuration. This MINI presumes the student has completed a UTD Essentials class or equivalent. Specifically, this MINI is designed for someone who only needs the side mount specific material from the Essentials of Recreational or Technical Side Mount Class.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Minimum age of 15
3. Completed UTD registration process
4. Standard gases are used.

Course Content

This class requires a minimum of four hours of academics, two hours of dry runs, and at least two in-water skills dives. Additional training and dives are at the discretion of the instructor.

The course focuses on cultivating the practical normal and emergency skills required by all side mount divers, including side mount gas management and planning, normal in-water gas management procedures, and emergency procedures.

Course Limits

1. General Training Limits as outlined in Section 1.4
2. All dives are to maintain a working PO2 of no greater than 1.4
3. UTD Z-System or similar side mount configuration
4. Instructor to student ratio maximum 6:1
5. There is no student to instructor ratio limit during classroom lectures

Online Classroom Courses & Text

1. Online Classroom Materials - Essentials of Side Mount diving
2. Essentials of Side Mount Diving DVD is recommended

Academic Topics

1. Side mount diving principles
2. Theory of independent doubles
3. Streamlining and equipment configuration
4. Air sharing and valve procedures
5. Gas management in independent doubles
6. Introduction to three or more bottles
7. Emergency procedures / System failures

Land Drills & Topics

1. Setup and Configuration of the Z-System or equivalent for side mount diving

2. Equipment fit and function
3. Setup and configuration of multi-cylinder side mount system.
4. Multiple cylinder gas management
5. Air sharing drills
6. Simulated failures of the stage bottles
7. Simulated failures of the distribution block
8. Simulated failure of the drive hose connection

Required Dive Skills and Drills

1. Demonstrate good buoyancy and trim
2. Familiarization with side mount configuration and equipment
3. Multiple cylinder gas management
4. Unclipped drive hose failure
5. Distribution block failure
6. Gas switch failures
7. Valve failures
8. Emergency out of air management / Air shares

Equipment Requirements

Side mount equipment configuration is designed to be simple and efficient. To get the most from your class it is advisable that you take the course in a complete UTD side mount system such as the Z-System.

Required Equipment:

1. All equipment noted in paragraph 3.0
2. Z-System or equivalent for side mount diving
3. Appropriate multiple AL80 stage bottles and AL 40 deco bottles with appropriate side mount rigging

3-283 Guideline MINI

Purpose

The Purpose of the UTD Guideline MINI is to introduce a diver to the use of a reel and proper laying of the line. Line protocols and skills will be developed during this mini. This MINI presumes the student has completed a UTD Essentials class or equivalent. Specifically, this MINI is designed for someone who only needs the guideline specific material from the Essentials class.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Minimum age of 16
3. Completed UTD registration process
4. Standard gases are used.

Course Content

This class requires a minimum of four hours of academics, two hours of dry runs, and at least two in-water skills dives. Additional training and dives are at the discretion of the instructor.

The course focuses on cultivating the proper use of a reel to including laying and retrieval of line, following guidelines, line markers and placement, line protocols, and emergency procedures involving the guideline.

Course Limits

1. General Training Limits as outlined in Section 1.4
2. All dives are to maintain a working PO2 of no greater than 1.4
3. Instructor to student ratio maximum 6:1
4. There is no student to instructor ratio limit during classroom lectures

Online Classroom Courses & Text

1. Online Classroom Materials – Guideline MINI
2. Technical or Recreational Gas Planning Worksheet
3. Essentials of Overhead Diving DVD is recommended

Academic Topics

1. Types of lines
2. Types of reels
3. Line markers and placement
4. Team positioning
5. Streamlining and equipment configuration
6. Air sharing procedures
7. Gas management
8. Emergency procedures

Land Drills & Topics

1. Laying and retrieving line

2. Line marker use to include arrows, cookies, REMs
3. Following line
4. Cut/broken line repair
5. Air sharing drills

Required Dive Skills and Drills

1. Demonstrate good buoyancy and trim
2. Laying and retrieving line
3. Line marker placement
4. Emergency out of air management / Air shares

Equipment Requirements

1. All equipment noted in paragraph 3.0.
2. Complete DIR/UTD back mount or side mount (Z-system) system

3-284 Stage MINI

Purpose

The Purpose of the UTD Stage MINI is to introduce a diver to the use of a stage bottle. Proper handling of stage bottles during a dive is critical so the diver will develop the skills necessary to use a stage bottle to extend their range. This MINI presumes the student has completed at least one of the following; Techreational, Cave 2, Wreck 2 class, or equivalent. Specifically, this MINI is designed for someone who wants to extend their bottom gas using a stage bottle and only needs the stage bottle specific material from the technical class.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Minimum age of 18
3. Have completed at least one of the following; Technical 1, Cave 2, Wreck 1 class, or equivalent.
4. Completed UTD registration process
5. Standard gases are used.

Course Content

This class requires a minimum of four hours of academics, two hours of dry runs, and at least two in-water skills dives. Additional training and dives are at the discretion of the instructor.

The course focuses on cultivating the proper use of a stage to including rigging, gas management with a stage bottle, gas switching, bottle passing, and emergency procedures involving the stage.

Course Limits

1. General Training Limits as outlined in Section 1.4
2. All dives are to maintain a working PO2 of no greater than 1.4
3. Instructor to student ratio maximum 6:1
4. There is no student to instructor ratio limit during classroom lectures

Online Classroom Courses & Text

4. Online Classroom Materials – Guideline MINI
5. Technical Gas Planning Worksheet
6. Technical Diving DVD is recommended

Academic Topics

1. Hose Routing
2. Dive planning
3. Team planning
4. Gas matching
5. Emergency procedures
6. Gas mixing
7. Analyzing and labeling gas supplies

Land Drills & Topics

1. Dive team order and protocols
2. Ascent protocols
3. Rigging a stage bottle
4. Pre dive drills
5. Stage use and failures
6. Gas switch protocols for both stage and deco bottles
7. Air sharing procedures
8. Gas management
9. Emergency procedures

Required Dive Skills and Drills

1. Equipment familiarization
2. Demonstrate excellent buoyancy control skills while conducting stage and decompression gas switches
3. Demonstrate the clean and effective removal and exchange of multiple deco bottles while hovering horizontal. The participant must be capable of removing and replacing one bottle in less than one minute, i.e. one minute per bottle, including an understanding and demonstrating of “back-gas breaks.”
4. Be able to comfortably demonstrate at least two propulsion techniques appropriate for delicate and/or silty environments
5. Emergency out of air management / Air shares

Equipment Requirements

1. All equipment noted in paragraph 3.0.
2. Complete DIR/UTD back mount or side mount (Z-system) system
3. At least one properly rigged stage bottle

3-285 Deco Bottle MINI

Purpose

The Purpose of the UTD Deco Bottle MINI is to introduce the advanced recreational diver to the use of a deco bottle bottle. Proper handling of deco bottles during a dive is critical so the diver will develop the skills necessary to use and manage a deco bottle. This MINI presumes the student has completed at least one of the following; Technical 1, Cave 2, Wreck 1 class, or equivalent. Specifically, this MINI is designed for someone in a Recreational 3 to use a Deco Bottle. This class is a NO DECOMPRESSION course and does not teach the student how to conduct decompression dives but it does teach the student how to properly handle a decompression gas to include Oxygen only.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Minimum age of 18
3. Have completed at least UTD Recreational 3 or equivalent.
4. Completed UTD registration process
5. Standard gases are used.

Course Content

This class requires a minimum of four hours of academics, two hours of dry runs, and at least two in-water skills dives. Additional training and dives are at the discretion of the instructor.

The course focuses on cultivating the proper use of a deco bottle to including rigging, gas management with a deco bottle, gas switching, bottle passing, and emergency procedures involving the deco bottle.

Course Limits

1. General Training Limits as outlined in Section 1.4
2. All dives are to maintain a working PO2 of no greater than 1.4
3. Instructor to student ratio maximum 6:1
4. There is no student to instructor ratio limit during classroom lectures

Online Classroom Courses & Text

1. Online Classroom Materials – Guideline MINI
2. Technical Diving DVD is recommended

Academic Topics

1. Hose Routing
2. Dive planning
3. Decompression theory
4. Team planning
5. Gas matching
6. Emergency procedures
7. Gas mixing
8. Analyzing and labeling gas supplies

Land Drills & Topics

1. Dive team order and protocols
2. Ascent protocols
3. Rigging a stage bottle
4. Pre dive drills
5. Stage use and failures
6. Gas switch protocols for both stage and deco bottles
7. Air sharing procedures
8. Gas management
9. Emergency procedures

Required Dive Skills and Drills

1. Equipment familiarization
2. Demonstrate excellent buoyancy control skills while conducting stage and decompression gas switches
3. Demonstrate the clean and effective removal and exchange of multiple deco bottles while hovering horizontal. The participant must be capable of removing and replacing one bottle in less than one minute, i.e. one minute per bottle, including an understanding and demonstrating of “back-gas breaks.”
4. Be able to comfortably demonstrate at least two propulsion techniques appropriate for delicate and/or silty environments
5. Emergency out of air management / Air shares

Equipment Requirements

1. All equipment noted in paragraph 3.0.
2. Complete DIR/UTD back mount or side mount (Z-system) system
3. At least one properly rigged stage bottle

3-286 Back Mount MINI

Purpose

The Purpose of the UTD Back Mount MINI is to introduce and cross over a diver in the use of the UTD/DIR Back Mount configuration. This MINI presumes the student has completed an Essentials class, or equivalent in side mount.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Minimum age of 15
3. Completed UTD registration process
4. Standard gases are used.

Course Content

This class requires a minimum of four hours of academics, two hours of dry runs, and at least two in-water skills dives. Additional training and dives are at the discretion of the instructor.

The course focuses on cultivating the practical normal and emergency skills required by all side mount divers, including side mount gas management and planning, normal in-water gas management procedures, and emergency procedures.

Course Limits

1. General Training Limits as outlined in Section 1.4
2. All dives are to maintain a working PO2 of no greater than 1.4
3. UTD/DIR back mount configuration
4. Instructor to student ratio maximum 6:1
5. There is no student to instructor ratio limit during classroom lectures

Online Classroom Courses & Text

1. Online Classroom Materials - Essentials of Technical or Recreational Diving
2. Technical or Recreational Gas Planning Worksheet
3. Essentials of Technical Diving DVD is recommended

Academic Topics

1. Back mount diving principles
2. Theory of isolatable doubles
3. Streamlining and equipment configuration
4. Air sharing and valve procedures
5. Gas management in doubles
6. Emergency procedures / System failures

Land Drills & Topics

1. Setup and Configuration of the back mount system
2. Equipment fit and function
3. Multiple cylinder gas management
4. Air sharing drills

5. Valve drills
6. Simulated valve failures

Required Dive Skills and Drills

1. Demonstrate good buoyancy and trim
2. Familiarization with back mount configuration and equipment
3. Valve drill
4. Valve failures (optional depending on current certification level)
5. Emergency out of air management / Air shares

Equipment Requirements

Back mount equipment configuration is designed to be simple and efficient. To get the most from your class it is advisable that you take the course in a complete UTD/DIR back mount system.

Required Equipment:

1. All equipment noted in paragraph 3.0
2. Either single tank or double tank back mount configuration

3-290 Annual Dive Review

Purpose

The Unified Team Diving Annual Dive Review is designed as an organized, structured way to maintain currency in diving. Anyone who has not been out of the water for long enough to feel even the slightest bit uncomfortable should have their skills reviewed with an instructor. At a minimum, every diver should spend some time with an instructor at least once each year.

With an ADR, you can choose the level of review you would like, then participate in the UTD online classroom for that class before you see your instructor. You will then do a day of diving at the level of your ADR – for example if you are a Technical 2 diver taking a Technical 2 ADR, you can do a Technical 2 dive. If you are a recreational diver, you'll do a dive to your current training limits.

The Annual Dive Review is a academic program followed by one day of diving. Recreational ADR's will generally have two dives, technical ADR's will generally have one dive.

UTD ADR's may be taught by UTD Instructors and UTD Divemasters.

Prerequisites

Must be a certified diver from a recognized Scuba Certification Agency trained and certified at the level of your Annual Dive Review or higher.

Course Limits

Same as the UTD class which corresponds to the specific ADR.

Texts

The program includes UTD's online classroom and an in-water skills review with a UTD instructor. Participate in an ADR can be at any level up to the highest level of the student's training.

Course Limits

Same as the UTD class which corresponds to the specific ADR.

Course Content

The Annual Dive Review academic materials are the same as those for a UTD class at the equivalent level as the ADR. The ADR incorporates a review of academic materials and a day of diving to the level of the ADR.

Classroom and Text

1. Required Online Classroom – same material as the class being reviewed.
2. Worksheet for that class.
3. DVD appropriate to the level of class.

Academic Topics

Same as the UTD class which corresponds to the specific ADR.

Land Drills and Topics

Same as the UTD class which corresponds to the specific ADR.

Dive Skills and Drills

Same as the UTD class which corresponds to the specific ADR.

Equipment Requirements

Same as the UTD class which corresponds to the specific ADR.

3-291 Crossover, Experience, and Evaluation Dives

Purpose

Crossover, Experience, and Evaluation Dives may be performed by any UTD Instructor. These dives may be to evaluate a student for a UTD crossover certification; they may be experience dives or guided dives; or they may be dives to evaluate a student's experience and skill level prior to that student enrolling in a UTD class.

This section does not apply to any workshop or specialty that requires a UTD certification card. For example, a student requiring dry suit training who does not require a certification card would be covered under this section, but a student who does require a certification card for dry suit training would have to comply with the Dry Suit specialty listed in the Standards and Procedures.

Certified divers performing the duties of class videographer are covered under this section. Videographers may join any UTD class at or below their level of certification. Videographers do not effect student to instructor ratios.

A UTD Instructor or Dive Master may lead an experience dive at or below his or her level of training. As all UTD Instructors are granted Dive Master status, a UTD Instructor may lead a dive to his or her highest level of training, which may be a higher level than the Instructor is certified to teach.

Prerequisites

Must have completed the student registration process. Student Registration, Wavier and release, Medical History. The use of prescription drugs must be authorized prior to the onset of diver training by a physician. Birth Control pills are exempt from this requirement.

Course Limits

Course Duration is at the discretion of the UTD Instructor or UTD Dive Master. Pursuant to the level of training of the student. A Crossover, Experience, or Evaluation Dive may not be deeper or beyond the certification level of the student.

No overhead environments, except:

A UTD Cave Instructor may escort a certified cave diver on a dive adhering to UTD Cave 1 limitations for the **Purpose** of experience or evaluation.
A UTD Wreck Penetration Instructor may escort a certified wreck diver on a dive adhering to UTD Wreck Penetration 1 limitations for the **Purpose** of experience or evaluation.
Course Content

At the discretion of the UTD Instructor or UTD Dive Master.

Course Limits

At the discretion of the UTD Instructor or UTD Dive Master, but in no case beyond the certification level of the student.

Classroom and Text

None required.

Academic Topics

At the discretion of the UTD Instructor or UTD Dive Master.

Land Drills and Topics

At the discretion of the UTD Instructor or UTD Dive Master.

Dive Skills and Drills

At the discretion of the UTD Instructor or UTD Dive Master.

Equipment Requirements

At the discretion of the UTD Instructor or UTD Dive Master.

3.3 Technical Classes

UTD's Technical Diver Program consists of an introduction – Techreational Diver – followed by a three step process – Technical 1, Technical 2, and Technical 3 with a final unlimited "Gold" class as the culmination of the technical diving training series. Each step is a building block class that introduces a diver to deeper depths and staged decompression in a slow progression, first working on bottom skills, then ascent skills and finally mid-water skills.

Upon completion of the first class, Techreational, divers are trained and qualified to dive to a depth of 130'/39m breathing Normoxic trimix 25/25 and using one Oxygen deco bottle. In the Technical 1 class divers are trained and qualified to dive to a depth of 160'/48m breathing Normoxic trimix 25/25, Trimix 21/35, and Trimix 18/45 with a single decompression gas of Nitrox 50 or 100% O2. Optionally, divers may train to use a stage bottle to conduct multiple technical dives in the same day when they received the stage mini. The second phase of the technical path allows the diver to dive to a depth of 200'/60m breathing Trimix 18/45 and 15/55 with a two decompression gases (Nitrox 50 and 100% O2). Optionally, divers may train to use a stage bottle by doing a stage mini. In the Technical 3 course, divers are trained and qualified to dive to a depth of 250'/75m breathing Trimix 15/55, 12/60, and 10/70 with three decompression gases (Normoxic trimix 35/25, Nitrox 50, and 100% O2). The final step is an unlimited or unrestricted course known as Technical Gold which removes all depth, gas, and bottle restrictions.

3-300 Techreational Diver

Purpose

The UTD Techreational Diver class is the first step into the UTD technical program. This course familiarizes divers with the use of Normoxic trimix 25/25 as a breathing gas for depths to 130'/ 39m with a single decompression bottle containing 100% O2 for accelerated decompression.

Techreational Diver training focuses on team skills, the diver's bottom skills, and is designed to cultivate, integrate, and test these skills which are essential for safe technical diving. This critical training will include bottom failures, mid-water failures, problem identification and resolution and building the capacity for progressively more challenging diving.

In this class students will be trained in the use of double tanks/cylinders and in the potential failure problems associated with them; the use of 100% Oxygen for accelerated decompression, the use of Helium to minimize narcosis; and the applications of single decompression bottle diving with respect to decompression procedures.

This class provides an excellent foundation on which divers can build their technical diving experience in the 130'/39m range using a single decompression bottle. Later, the diver can then complete Technical 1, which provides a solid basis of critical skills for the Technical Diver venturing to 160'/48m range utilizing single decompression bottle and optionally a stage to conduct multiple technical dives in one day.

Successful completion of Techreational Diver qualifies a diver to use a normoxic Helium mix of 25/25 and 100% Oxygen for decompression. The limits for a UTD Techreational diver are 130'/ 39m and the use of one (1) decompression bottle with 100% O2. Accelerated decompression is limited to one oxygen cycle (see definitions in the appendix).

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6.
2. Must be a minimum age of 21 years.
3. Must have a minimum of 75 dives beyond open water
4. UTD Essentials of Tech and a Nitrox endorsement or equivalent.
5. A recommended 25 dives beyond the "Essentials of Tech" completion.
6. All participants must be able to swim at least 400 yards in 14 min or must be able to swim at least 600 yards in 18 minutes with mask & fins.
7. All participants must be able to swim a distance of at least 50' (15m) on a breath hold without swim aids such as fins.
8. All participants must surface-tow a diver in full equipment, in the environment they will be diving, for 10 minutes.
9. All participants must demonstrate a rescue of a diver simulating oxygen toxicity.

Course Limits

1. General Training Limits as outlined in Section 1.4
2. Student to Instructor ratio is not to exceed 6:1 during land drill, surface exercises and Experience Dives but 4:1 during any direct in-water critical skills training.
3. Maximum depth 130 feet / 39m.
4. Use of Standard gases, Normoxic trimix 25/25, and 100% Oxygen.
5. 100% Oxygen decompression to be limited to one single cycle of oxygen per dive (see appendix for a definition of 'Oxygen Cycle."

6. No overhead environments.

Course Content

The UTD Techreational Diver course is normally conducted over a five day period, and cumulatively involves a minimum of 30 hours of instruction, designed to provide a working knowledge of enriched air diving, use of Normoxic trimix and decompression mixtures, and other operational considerations.

Course requirements include eight (8) hours of academics and a minimum of eight (8) dives, two (2) of which are student development dives, four (4) of which will be critical skill dives, and two (2) will be experience dives.

This class is a decompression class, so divers in this depth range must be aware of the potential for entering into decompression commitments and should be prepared.

Initial training dives will be conducted in shallow water. The two experience dives are to a max depth of 130'/39m breathing 25/25 and using 100% oxygen for decompression.

Online Classroom Courses & Text

1. Online Classroom Materials – Technical Diver
2. Technical Worksheet
3. Technical DVD is recommended

Academic Topics

1. Physics
2. Pressure and Gas laws review
3. Equations relevant for the planning, mixing, and use of enriched air
4. Physiology – Hypoxia, Hyperoxia
5. Oxygen toxicity – CNS, Pulmonary toxicity
6. Tracking multi-level, multi-dive, and multi-day exposures
7. Inert gas narcosis
8. Carbon dioxide toxicity
9. Introduction to Normoxic trimix
10. Disadvantages of deep air
11. Double tanks, Decompression and/or Stage bottle
12. BC/harness
13. Regulators, depth gauges, pressure gauges, and hose routing
14. Manifolds
15. Reels and line protocols
16. Lift bag/surface marker buoys and spools
17. Bottom timers and time keeping devices
18. Exposure suit appropriate for the environment
19. Decompression illness
20. Accelerated and "on the fly" decompression
21. Decompression practices on back-gas and 100% oxygen
22. Generic tables, computers, and custom tables
23. Dive planning
24. Team planning
25. Gas matching
26. Emergency procedures

27. Analyzing and labeling gas supplies

Land Drills & Topics

1. Reel and guideline use
2. Dive team order and protocols
3. Touch contact
4. Manifold use and failures
5. Pre dive drills
6. Use of safety spools and reels
7. Basic navigation skills

Required Dive Skills & Drills

1. All skills and drills as outlined in the general diving skills as outlined in Section 1.5
2. Procedures for gas failures (back gas and deco gas) including valve manipulation, air-sharing, and regulator switching as appropriate
3. Lift bag/surface marker buoy deployment
4. Buoyancy and trim
5. Able to comfortably demonstrate at least two propulsion techniques appropriate for delicate and/or silty environments
6. Use of touch contact for communication
7. Reel and guideline use (introduction only)
8. Equipment familiarization
9. Air-sharing scenarios to include a horizontal swim for at least 200 feet/60 meters
10. Demonstrate effective valve-management by switching regulators, shutting down a valve in less than 15 seconds and returning the valve to the open position again in less than 15 seconds and/or completing a complete valve-drill in 2 minutes

Equipment Requirements

Each student should have, and be familiar with, all of the following required equipment.

1. All equipment noted in paragraph 3.0
2. One 40cft. decompression bottle
3. One primary reel per team, with a minimum of 200 feet/60 meters of line

3-310 Technical 1

Purpose

The Technical 1 course is designed to prepare divers for the rigors of Technical diving and to familiarize them with the use of different breathing gases (25/25, 21/35 or 18/45), use of a single decompression bottle with the option of two different decompression gas mixtures (either Nitrox 50 or 100% O2) and various approaches to conducting two technical dives in a day.

Technical 1 training focuses on critical skills including bottom and mid water failures cultivating, integrating, and ultimately testing the divers with blue water skills and their ability to deal with failures not only on the bottom but also during the accent and gas switch – skills which are essential for safe technical diving. This critical training will include problem identification and resolution, and building the capacity for progressively more challenging diving.

Students will continue to use double tanks/cylinders in addition to the use of a deco bottle of either Oxygen or Nitrox 50 for accelerated and “on the fly” decompression. This class takes advantage of the use of Helium to minimize narcosis, and the application and benefit of single decompression bottle diving will be thoroughly explored.

An optional mini class for use of a stage bottle is available to students who have completed the Technical 1 course or opt to take the stage mini concurrently with Technical 1.

The limits for a UTD Technical 1 diver are 160’/48m, one (1) decompression bottle and the use of one (1) stage bottle (if trained). Maximum decompression time when using 100% oxygen for deco is limited to one oxygen cycle (15 minutes) and decompression time is limited to 30 minutes if using Nitrox 50 for deco.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6.
2. Must be a minimum age of 21 years.
3. Must have a minimum of 75 dives beyond open water qualification.
4. UTD Essential of Tech, UTD Recreational 2 with Doubles MINI, UTD Techreational, or equivalent with assessment.
5. All participants must be able to swim at least 400 yards in 14 min or must be able to swim at least 600 yards in 18 minutes with mask & fins.
6. All participants must be able to swim a distance of at least 50' (15m) on a breath hold without the use of swimming aids such as fins.
7. All participants must tow a diver in full equipment, in the environment they will be diving in, for 10 minutes.
8. All participants must demonstrate a rescue of a diver simulating oxygen toxicity.

Course Limits

1. General Training Limits as outlined in Section 1.4
2. Student to Instructor ratio is not to exceed 6:1 during land drill, surface exercises and Experience Dives but 4:1 during any direct in-water critical skills training and experience dives.
3. Maximum depth 160 feet / 48 meters
4. Standard bottom gases are Nitrox 32, 25/25, 21/35, 18/45
5. Standard decompression gases are Oxygen and Nitrox 50%
6. No overhead environments

7. Max deco time when using a 100% oxygen bottle is limited to one oxygen cycle
8. Max deco time when using a Nitrox 50 bottle is limited to 30 minutes

Course Content

The UTD Technical 1 course is normally conducted over a four day period, and cumulatively involves a minimum of 32 hours of instruction, designed to provide a working knowledge of enriched air diving, use of Normoxic trimix and decompression mixtures, including history, physics, physiology, tables, and operational considerations.

Course requirements include eight (8) hours of academics and eight (8) dives, two (2) of which are student development dives, four (4) of which will be critical skill dives, and two (2) will be experience dives.

This class is a decompression class, so divers in this depth range must be aware of the potential for entering into decompression commitments and should be prepared.

Initial dives will be conducted in shallow mid-water. The last two experience dives are to be dives at a max depth of 160'/48m breathing 25/25, 21/35 or 18/45 and using 100% or 50% oxygen for decompression.

Online Classroom Courses & Text

1. Online Classroom Materials – Technical Diver
2. Technical Worksheet
3. Technical DVD is recommended

Academic Topics

1. Inert gas narcosis
2. Carbon dioxide toxicity
3. Introduction to Normoxic trimix
4. Disadvantages of deep air
5. Inert gas absorption and elimination
6. Decompression illness
7. Accelerated and "on the fly" decompression
8. Decompression practices on back-gas and enriched air
9. Generic tables, computers, and custom tables
10. Double tanks, Decompression bottle, Stage bottle
11. BC/harness
12. Regulators, depth gauges, pressure gauges, and hose routing
13. Manifolds
14. Lift bag/surface marker buoys and spools
15. Bottom timers and time keeping devices
16. Exposure suit appropriate for the environment
17. Dive planning
18. Team planning
19. Gas matching
20. Emergency procedures
21. Omitted decompression procedures
22. Miscellaneous issues including limited deco gas, out of air, buddy separation, etc.
23. Gas mixing
24. Analyzing and labeling gas supplies

Land Drills & Topics

1. Dive team order and protocols
2. Ascent protocols
3. Touch contact
4. Manifold Use and failures
5. Pre dive drills
6. Use of safety spools and reels
7. Lift bag deployment
8. Stage use and failures
9. Gas switch protocols for both stage (for stage bottle endorsement) and deco bottles

Required Dive Skills & Drills

1. All skills and drills as outlined in the general diving skills as outlined in Section 1.5
2. Procedures for gas failures, including valve manipulation, air-sharing, and regulator switching as appropriate
3. Lift bag/surface marker buoy deployment
4. Buoyancy and trim
5. Be able to comfortably demonstrate at least two propulsion techniques appropriate for delicate and/or silty environments
6. Use of touch contact for limited and simulated zero visibility situations
7. Reel and guideline use
8. Demonstrate proficiency with the backward kick to display ability to maintain position.
9. Equipment familiarization
10. Air-sharing scenarios to include a horizontal swim for at least 200 feet/60 meters
11. Demonstrate reasonable proficiency with a single decompression bottle and gas switching
12. Demonstrate reasonable proficiency with a single stage bottle to include at least one valve drill and one failure to receive the Stage Bottle Endorsement.
13. Demonstration proficiency with effective decompression depth and time management
14. One experience dive must be conducted using Oxygen for decompression.

Equipment Requirements

Each student should have, and be familiar with, all of the following required equipment.

1. All equipment noted in paragraph 3.0
2. One 40cft./6L decompression bottle
3. One 80cft./11L stage bottle (if diver is seeking Stage Bottle training)
4. One primary reel per team, with a minimum of 200 feet/60 meters of line

3-320 Technical 2

UTD's Technical 2 course is the next step in the technical training sequence. This class expands the divers range and capabilities using the building block concept. Depth and complexity are added in small steps, building on the Technical Diver's existing skill set. Typically this course in conducted over a four day period and upon completion of Technical 2, a diver is qualified to 200'/60m using standardized bottom gases of 18/45 and 15/55 and decompression mixes of Oxygen and Nitrox 50. Stage bottles can be added upon completion of the stage mini

Purpose

The UTD Technical 2 is designed to continue a diver's pursuit of technical diving, giving them the ability to use hypoxic Trimix blends and to carry and manage two (2) decompression bottles (Nitrox 50 and O2). New material includes the nuances of Trimix (Hypoxic mixes), the gas management and failure management of multiple decompression bottles, the in water management of these two decompression bottles, and other academic issues and understanding of the dives to 200'/60m.

Successful completion of Technical 2 qualifies a diver to use Trimix 18/45 and 15/55 plus Nitrox mixes up to and including 100% Oxygen to a depth of 200 feet/60 meters utilizing two (2) decompression bottles with a maximum of one hour of decompression.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6.
2. Must be a minimum age of 21 years.
3. UTD Technical 1 or equivalent.
4. UTD Rescue and Emergency Procedures or equivalent.
5. Minimum of 200 logged dives with at least 75 dives on double tanks, of which at least 25 are utilizing single stage/or deco bottle and at least 25 dives beyond 100'/30m (utilizing Normoxic trimix). Students should have completed at least 25 dives in personal training scenarios and environments in preparation for the Trimix 1 class.
6. All participants must be able to swim at least 400 yards in 14 min or must be able to swim at least 800 yards in 18 minutes with mask & fins.
7. All participants must be able to swim a distance of at least 50' (12m) on a breath hold or demonstrate an air share swim where the OOA diver swims at least 50' (15m) to the donating diver.
8. All participants must surface-tow a diver in full equipment, in the environment they will be diving, for 10 minutes.
9. All participants must demonstrate a rescue of a diver simulating oxygen toxicity.

Course Limits

1. General Training Limits as outlined in Section 1.4
2. Student to Instructor ratio is not to exceed 4:1 during any in-water training
3. Maximum depth 200 feet / 60 meters
4. Standard bottom gases are Nitrox 32, 25/25, 21/35, 18/45, and 15/55.
5. Standard decompression gases are Nitrox 50 and 100% O2.
6. Two (2) decompression bottles.
7. No overhead environment diving.

Course Content

This class is structured around a 4 consecutive-day structure. Technical 2 involves a minimum of 6 hours of classroom instruction and 6 dives (4 training dives and 2 experience dives with Trimix, with all dives conducted using two deco bottles), designed to provide a working knowledge of Trimix, including an understanding of the history and practice of decompression, physics, physiology, table analysis, ratio deco (deco on the fly) and operational considerations. This class is a decompression class, so divers in this depth range must be aware of the potential for entering into decompression commitments and should be prepared.

Online Classroom Courses & Text

1. Online Online Classroom Materials – Technical 2
2. Technical Diver Worksheet
3. Technical DVD is recommended

Academic Topics

1. UTD organization
2. Limits of training, and course completion requirements
3. Advanced Gas Management including Stage and decompression gas concerns
4. Review of decompression, risk, diving physiology
5. Accelerated, omitted, and “on the fly” decompression calculation
6. Dive logistics and planning

Land Drills & Topics

1. Multi Decompression bottle use
2. Dive team order and protocols
3. Gas switching procedures and protocols
4. Decompression stop management
5. Use of safety spools and reels

Required Dive Skills & Drills

1. All skills and drills as outlined in the general diving skills as outlined in Section 1.5
2. Review procedures for gas failures, including valve manipulation, air-sharing, and regulator switching (as appropriate)
3. Effectively and comfortably demonstrate the ability to deploy a lift bag/surface marker buoy in less than two minutes while hovering stationary. Participants should not vary in depth more than 5 feet/1.5 meters
4. Demonstrate the clean and effective removal and exchange of multiple deco bottles while hovering horizontal. The participant must be capable of removing and replacing each of at least two bottles in less than one minute, i.e. one minute per bottle, including an understanding and demonstrating of “back-gas breaks.”
5. Be able to comfortably demonstrate at least two propulsion techniques appropriate for delicate and/or silty environments
6. Equipment familiarization
7. Demonstrate excellent buoyancy control skills while conducting stage and decompression gas switches

Equipment Requirements

1. All equipment noted in paragraph 3.0
2. Two 40cft./6L decompression bottles

3. One primary reel per team, with a minimum of 200 feet/60 meters of line

3-330 Technical 3

Purpose

The Technical 3 class is the third step in the diver's pursuit for completing the full range of "Technical Diver" and is designed to further extend the range the student achieved in Technical 2. Students will continue to refine their skills including the use of double bottles and multiple deco bottles and will add the use of multiple bottom stages while becoming familiar with the failures associated with them.

This mastery level class reviews and refines skills learned in the Technical 2. The curriculum is designed to transform two deco bottle technical divers into multi stage/deco technical divers (3 or more deco/stage bottles), completing the tool box required for dives in the 200'-250' / 60-75m range. The addition of a bottom stage greatly increases the safety in terms of gas reserves, and also increases the flexibility for dive planning. Course participants will gain experience working with a variety of different gas mixtures for use as bottom mix and bottom stage and decompression gases.

Upon successful completion of the Technical 3 class the student will receive qualifications which allow the use of Hypoxic Helium mixes to 12/60 and Nitrox decompression mixes up to and including 100% Oxygen to a training depth of 250 feet/75 meters. Student are certified to use a maximum of three (3) decompression bottles and one (1) stage bottle.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6.
2. Must be a minimum age of 21 years.
3. UTD Technical 2 or equivalent with assessment.
4. Minimum of 250 logged dives with at least 100 dives on double tanks, of which at least 25 are utilizing single stage and at least 25 dives beyond 100 feet/30 meters (utilizing Normoxic trimix). Students should have completed at least 25 dives with personal training scenarios and in different environments in preparation for the Technical 3 class.
5. All participants must be able to swim at least 400 yards in 14 min or must be able to swim at least 800 yards in 18 minutes with mask & fins.
6. All participants must be able to swim a distance of at least 50' (12m) on a breath hold or demonstrate an air share swim where the OOA diver swims at least 50' (15m) to the donating diver.
7. All participants must surface-tow a diver in full equipment, in the environment they will be diving in, for 10 minutes.
8. All participants must demonstrate a rescue of a diver simulating oxygen toxicity.

Course Limits

1. General Training Limits as outlined in Section 1.4
2. Student to Instructor ratio is not to exceed 4:1 during any in-water training
3. Maximum depth 250 feet / 75m
4. Standard bottom gases are 21/35, 18/45, 15/55
5. Standard deco gases are 35/25, Nitrox 50 and 100% O2
6. No overhead environment diving.

Course Content

This class is structured around a 4 day class. The course involves a minimum of 6 hours of classroom instruction and 6 dives (4 practice dives, and 2 experience dives with Trimix with all 6 dives conducted with multiple stage and deco bottles). It is designed to provide a working knowledge of Trimix, including an understanding of the history and practice of decompression, physics, physiology, table analysis, ratio deco (deco on the fly) and other operational considerations. This class is a decompression class, so divers in this depth range must be aware of the potential for entering into decompression commitments and should be prepared.

Online Classroom Courses & Text

1. Online Online Classroom Materials – Technical Diver
2. Technical Diver Worksheet
3. Technical DVD is recommended

Academic Topics

1. UTD organization
2. Limits of training, and course completion requirements
3. Advanced Gas Management including Stage and decompression gas concerns
4. Review of decompression, risk, and diving physiology
5. Accelerated, omitted, and “on the fly” decompression calculation
6. Discussion of in-water recompression protocol
7. Dive logistics and Planning

Land Drills & Topics

1. Multi Decompression and stage bottle use
2. Dive team order and protocols
3. Gas switching procedures and protocols
4. Decompression stop management
5. Use of safety spools and reels

Required Dive Skills & Drills

1. All skills and drills as outlined in the general diving skills as outlined in section 1.5.
2. Review procedures for gas failures, including valve manipulation, air-sharing, and regulator switching (as appropriate).
3. Effectively and comfortably demonstrate the ability to deploy a lift bag/surface marker buoy in less than two minutes while hovering stationary. Participants should not vary in depth more than 3 feet/1 meter.
4. Demonstrate the clean and effective removal and exchange of multiple deco and stage bottles while hovering horizontal. The participant must be capable of removing and replacing each of at least two bottles in less than one minute, i.e. one minute per bottle.
5. Be able to comfortably demonstrate at least two propulsion techniques appropriate for delicate and/or silty environments.
6. Equipment familiarization.
7. Demonstrate excellent buoyancy control skills while conducting stage and decompression gas switches.

Equipment Requirements

1. All equipment noted in paragraph 3.0
2. Three 40cft. decompression bottles

3. One 80cft. stage bottle
4. One primary reel per team, with a minimum of 200 feet/60 meters of line

3-340 Technical Gold

This is the pinnacle open circuit technical class and removes all depth, gas, and bottle restrictions from the UTD Technical 3 diver. The course is taught over two days (one day of skills and one day of experience dives) and covers topics related to multi-bottle handling, cascading ratio deco, and other topics. Upon certification students may use an unlimited number of stage/ decompression bottles.

Prerequisites:

1. UTD Technical 3 – no equivalents
2. Proof of 25 experience dives in Technical 3 range
3. In-water session(s) to cover
    - 120’/36m gas switching protocols
    - 70'/21m gas switch protocols
    - 20'/6m gas switch protocols
    - Multiple O2 Cycles

Student Skills Demonstration

1. Demonstrate ability to safely deploy a decompression bottle while maintaining buoyancy within a 3'/1m +- of target depth and within 1 minute.
2. Demonstrate ability to safely stow a decompression bottle while maintaining buoyancy within +- 3'/1m of target depth and within 1 minute.
3. Demonstrate ability to pass and receive a deco bottle while maintaining buoyancy within +- 3'/1m of target depth and within 1 minute.

3-4 Overhead Classes

3-400 Overhead Protocols

Purpose

The UTD Overhead Protocols course is a mandatory prerequisite to UTD's Wreck Penetration and Cave Diving classes and acts as the first step of any overhead environment certification course. As there are so many skills and techniques common to both wreck and cave diving, the Overhead Protocols class presents the student with the foundational skills that are necessary to be a safe, thinking diver in any overhead environment.

This three-day class takes place in non-overhead environments generally at depths of 30'/10m or less, and introduces the student to line-laying, line retrieval, no-visibility line following, touch contact communication skills, critical skills with no-visibility line following, lost line, lost buddy and lost light. Once these skills are learned, the class introduces a series of simulated failures while on the line: out of air situations, valve failures, to mention a few. These are tested to a level similar to that of the UTD Technical 1, but complicated by the necessity of staying on a line and simulating the need to navigate back to open water.

Completion of this class qualifies a diver, within one year, to move on to UTD Wreck Penetration 1 or UTD Cave 1 programs, each of which is another three day to five day class that takes place in the actual overhead environment. If a student wishes to complete both Wreck Penetration 1 and Cave 1, he/she will not need to repeat the Overhead Protocols class, eliminating the repetition of the line skills. Both Wreck Penetration 1 and Cave 1 contain a complete review of line procedures in case there is a time gap between the Overhead Protocols class and Wreck Penetration 1 or Cave 1.

Notes:

Overhead Protocols can be combined with Wreck Penetration 1 *or* Cave 1 into a single, five-day class.

No certification card is issued following completion of Overhead Protocols. This class is a prerequisite course only. Certification is reached following successful completion of Cave 1 or Wreck 1.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Must be a minimum age of 18 years
3. Must have a minimum of 75 dives beyond open water qualification
4. UTD Essentials with Overhead or Technical endorsement or equivalent
5. UTD Recreational 2 with Doubles MINI or equivalent (Advanced Diver with Nitrox and experience in double tank configurations)
6. Must be able to swim at least 300 yards/275 meters in less than 12 minutes without stopping.
7. Must be able to swim a distance of at least 60 feet/18 meters on a breath hold.

Course Limits

1. General training limits as outlined in Section 1.6
2. Student to Instructor ratio is not to exceed 4:1 during any in-water training

3. Maximum depth 60 feet/18 meters
4. No overhead environments
5. No decompression

Content

The UTD Overhead Protocols course is normally conducted over a 3-day period, and cumulatively involves a minimum of 24 hours of instruction (lecture and in-water) designed to introduce divers to the general skills common to all overhead environments including, but not limited to, wreck penetration and cave exploration.

Course requirements include ten hours of academics and nine (9) dives.

Texts

1. Online Online Classroom Materials – Overhead Protocols
2. Recreational Gas Planning Worksheet
3. Technical Diver DVD is recommended

Academic Topics

1. UTD organization, limits of training, and course completion requirements
2. Reel and guideline use
3. Dive team order and protocols
4. Touch contact
5. Use of safety spools and reels
6. Basic navigation skills

Land Drills & Topics

1. UTD equipment configuration
2. Reel and guideline use in standard operating procedures
3. Team order and protocols
4. All equipment failures
5. Use of safety spools/reels
6. Reel and guideline use in emergency procedures, including touch contact and air-sharing techniques
7. Lost diver procedures
8. Lost guideline procedures
9. Basic navigation skills
10. Visual referencing skills

Required Dive Skills & Drills

1. All skills and drills as outlined in the General Diving Skills, Section 1.5.
2. Pre-dive planning to include:
   - Assess and review diving limitations
   - Dive plan review
   - Equipment review
   - Equipment familiarization
3. Navigation, to include:
   - Visual reference

- Guideline and Markers use
- Limited and simulated zero visibility

4. Procedures for gas failures; including valve manipulation, air-sharing, and regulator switching (as appropriate), included but not limited to Zero visibility scenarios
5. Demonstrate proficiency in safe diving techniques, including pre-dive preparations, in-water activity, and post-dive assessment.
6. Air-sharing scenarios to include:
   - Breath hold management
   - Out of air diver
   - Air-sharing of at least 200 feet/60 meters
7. Use of various propulsion techniques according to environment (silt, high flow, delicate)
8. Use of touch contact for limited and simulated zero visibility situations.
9. Use of line following techniques for limited/no visibility experiences.
10. Demonstrate the efficient deployment of a reserve light in less than 30 seconds.
11. Demonstrate excellent buoyancy control skills.
12. Perform a Lost Diver drill while remaining calm and maintaining a horizontal attitude and neutral posture.
13. Perform a Lost Line drill while remaining calm and maintaining a horizontal attitude and neutral posture.
14. Demonstrate effective valve-management by switching regulators, shutting down a valve, and then returning the valve to the open position.
15. Demonstrate proficiency with guideline management in the following situations:
    - Simulated zero visibility line following; this would incorporate touch-contact skills
    - Efficient deployment of the guideline while following international protocol
    - Efficient removal of the guideline
16. Resolving line entanglement scenarios

3-41 Cave Diver Program

UTD's **Cave Diver** program consists of a multi-step process starting with Cave 1 and Cave 2. These classes are designed to be building block classes that introduce a diver to cave environments and the protection and conversion of this delicate aquatic environment. These building blocks are designed to be a slow progression, first (Cave 1) working on the basic cave diving skills needed to penetrate the cave following the "mainline." Later, (Cave 2) we develop the skills to penetrate further into the cave and safely navigate the wide variety of tunnels and passages that make up this complex underwater labyrinth. Upon completion of these two courses, divers are trained and qualified as a **Cave Diver** (completion of Cave 2), with the ability to explore the mainline, unlimited side passages, conducting T's, jumps, gaps, circuits, traverses using gas management rules of 1/3rds and a max depth of 100'/30m. The Cave 1 certification expires 24 months from the certification date at which point the diver must retake the class or move up to Cave 2. (See Cave Diver 1 Standards and Procedures for more information.)

A certified Cave 2 diver with the relevant experience can take the prestigious Stage MINI allowing them to add a stage bottle to extend their penetration distance in a cave. Additionally, they can progress on to Cave 3 (Technical and Stage Cave Diver) and onto other specialties designed for the overhead environment like Overhead Scooter Endorsement, Advanced Side-Mount Diver, and Rebreather Cave Diver.

3-410 Cave 1 (Part 1 of Cave Diver Program)

Purpose

The UTD Cave 1 course is designed to be the first step in educating and refining students' skills within the cave environment to both protect the cave and to become a certified Cave Diver. This is achieved through an intense diver education program that acquaints individuals with an understanding of established cave conservation procedures and an appreciation for the subtle dangers often associated with this overhead diving. This course covers the basic principles of cave diving, introducing the skills and knowledge required to penetrate and navigate the main line of an underwater cave environment. Training includes an emphasis on awareness, cave dive planning, cave environments, stress management, conservation, standard procedures, emergency procedures, techniques, problem solving, and the hazards of cave diving.

Upon completion of Cave 1, divers will be able to safely dive penetrating the cave, and following the mainline with 1/3rd of their gas or a max of usable gas to penetrate (usable gas is total gas minus rock bottom).

Unlike other UTD certification cards the UTD Cave 1 card expires after 24 months, at which point you must either retake Cave 1 or move up to complete the second part, Cave 2 and become a fully certified Cave Diver, which has no expiration. To qualify for this type of instruction participants must be proficient divers with advanced buoyancy control skills and foundation in the protocols. UTD does not assume that cave training is for everyone. In fact, only very capable divers, who are quite comfortable in the water, should consider this form of diving.

Note: *Cave 1 and Cave 2 can be combined into a single 6 day program.*

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Must be a minimum age of 21 years
3. Must have a minimum of 75 non-training dives beyond open water qualification
4. Essentials with Overhead or Technical endorsement or equivalent
5. UTD Overhead Protocols class within 12 months (1 year)
6. Must be able to swim at least 300 yards/275 meters in less than 12 minutes without stopping
7. Must be able to swim a distance of at least 60 feet/18 meters on a breath hold

Course Limits

1. General training limits as outlined in Section 1.4.
2. Student to Instructor ratio is not to exceed 3:1 during any overhead diving activity.
3. Gas consumption: Maximum of 1/3rd of usable gas to penetrate (usable gas is total gas minus rock bottom).
4. Maximum depth 100 feet/30 meters.
5. Minimum 10 feet/ 3 meters of visibility to enter a cave.
6. Minimum 80cft /2300 liters of gas to enter a cave.
7. No restrictions (passages in which divers are forced to proceed in single file).
8. No complex navigation such as Jumps, Gaps, T's, cave circuits or traverses.
9. No planned decompression.
10. No scooter or rebreather diving.
11. No original exploration or line/line marker modification.

12. Unlimited navigation decisions (Jumps, Gaps, T's) are allowed in the CAVERN ZONE only.
13. No stage cylinder use allowed in Cave 1.

Course Content

The UTD Cave 1 course is normally conducted over a 3 – 4 day period following UTD the Overhead Protocols Class, and involves a minimum of 24 hours of instruction (lecture and in-water) designed to instill divers with an appreciation for the dangers, challenges and beauty of the cave environment. The fourth day is typically used for experience dives. Special emphasis here will be placed on the unique challenges posed by overhead exposure and the identification, management and resolution of life-threatening adversity.

Course requirements include nine (9) hours of academics and eight (8) dives at a minimum of two different locations. At least four (4) of these dives will be beyond the daylight zone. One experience dive should be at a different cave site conditions permitting.

Texts

1. Online Classroom Materials – Cave Diver
2. Gas Planning Worksheet
3. Cave Diver DVD and Essentials of Overhead Diving DVD recommended

Academic Topics

1. UTD organization, limits of training, and course completion requirements.
2. Conservation.
3. Accident analysis.
4. Reel and guideline use.
5. Dive team order and protocols.
6. Touch contact.
7. Use of safety spools and reels

Land Drills & Topics

1. UTD equipment configuration.
2. Reel and guideline use in standard operating procedures.
3. Team order, positioning and protocols.
4. All equipment failures.
5. Use of safety spools/reels.
6. Reel and guideline use in emergency procedures, including touch contact and gas-sharing techniques.
7. Lost diver procedures.
8. Lost guideline procedures.
1. Line entanglement procedures (including cutting and repairing guideline)
2. Visual referencing skills.

Required Dive Skills & Drills

1. All skills and drills as outlined in the General Diving Skills, Section 1.5.
2. Pre-dive planning to include:
   - Assess and review diving limitations,
   - Dive plan review,
   - Equipment review,

- Equipment familiarization,
- Map use.

3. Navigation, to include:
   - Visual reference,
   - Guideline and marker use,
   - Limited and simulated zero visibility.
4. Procedures for gas failures; including valve manipulation, gas-sharing, and regulator switching (as appropriate), included but not limited to zero visibility scenarios.
5. Demonstrate proficiency in safe diving techniques, including pre-dive preparations, in-water activity, and post-dive assessment.
6. Gas-sharing scenarios to include:
   - Breath hold management
   - Out of gas diver
   - Gas-sharing for at least 200 feet/60 meters
7. Use of various propulsion techniques according to environment (silt, high flow, delicate).
8. Use of touch contact for limited and simulated zero visibility situations.
9. Use of line following techniques for limited/no visibility experiences.
10. Demonstrate the efficient deployment of a reserve light in less than 30 seconds.
11. Demonstrate excellent buoyancy control skills.
12. Perform a Lost Diver drill while remaining calm, horizontal and neutrally buoyant.
13. Perform a Lost Line drill while remaining calm, horizontal and neutrally buoyant.
14. Demonstrate effective valve-management by switching regulators, shutting down a valve in less than 15 seconds, and then returning the valve to the open position again in less than 15 seconds.
15. Demonstrate proficiency with guideline management in the following situations:
    - Simulated zero visibility line following; this would incorporate touch-contact skills,
    - Efficient deployment of the guideline while following international protocol,
    - Efficient removal of the guideline.
16. Resolving line entanglement scenarios.
17. Unconscious diver recovery simulation, including horizontal swim recovery over a minimum distance of 100ft/30m in the open water.

Equipment Requirements

1. All equipment noted in paragraph 3.0.
2. One safety spool per diver, with a minimum of 150 feet/50 meters of line, knotted each 30’/10m.
3. One primary reel per team, with a minimum of 400 feet/120 meters of line.
4. Personal markers (at least 5 directional and 5 non-directional).
5. Two thigh-mounted pockets.
6. Neoprene hood.
7. Fins with spring-straps.

Limits of Certification

1. Unlimited navigational decisions in cavern zone (Jumps & T’s ok)
2. No jumps, T’s, or complex navigation in cave zone
3. No passing a midpoint (change in directions of cave arrows)
4. No major restrictions

3-415 Cave 2 (Part 2 of Cave Diver Program)

Purpose

The UTD Cave 2 class is the continuation of the pursuit to become a fully certified Cave Diver. The course is designed to be the second step in educating and refining skills within the cave environment to protect the cave. This is achieved through an intense diver education program that acquaints individuals with an understanding of established cave conservation procedures and an appreciation for the subtle dangers often associated with this overhead diving. This course covers more advanced principles of cave diving, continuing with the skills and knowledge required to penetrate and navigate the underwater cave environment. Training includes an emphasis on awareness, cave dive planning, cave environments, stress management, navigation, T's, Jumps, Gaps, conservation, standard procedures, emergency procedures, techniques, problem solving, and the hazards of cave diving. Upon completion of the Cave 2 class, divers will now be considered to be a fully qualified Cave Diver, their Cave 1 certification will no longer expire, and they will be able to safely penetrate and navigate the cave, not only following and exploring the mainline but many of the side passageways and tunnels that make up this underwater labyrinth, while using no more than 1/3rd of their gas for penetration. UTD does not assume that cave training is for everyone. In fact, only very capable divers, who are quite comfortable in the water, should consider this form of diving.

Note: *The entire Cave Diver training curriculum (parts 1 and 2) can be combined into a single 6 day program.*

Prerequisites

Must meet UTD General Course Prerequisites as outlined in Section 1.6

1. Must be a minimum age of 18 years
2. Must have a minimum of 75 non-training dives beyond open water qualification
3. Essentials of Overhead or Technical endorsement or equivalent.
4. UTD Cave Diver 1 or equivalent within 24 months
5. Must be able to swim at least 300 yards/275 meters in less than 12 minutes without stopping
6. Must be able to swim a distance of at least 60 feet/18 meters on a breath hold

Course Limits

1. General training limits as outlined in Section 1.4
2. Student to Instructor ratio is not to exceed 3:1 during any overhead diving activity
3. Gas consumption: no more than 1/3 of usable gas volume for cave penetration. Minimum reserve exit is 2/3rds of usable gas volume. Rock bottom is to be deducted from starting volume to get usable volume.
4. Maximum depth 100'/30, or 130'/39m if previously qualified to the UTD Technical Diver 1 Level or equivalent.
5. Minimum 10 feet/ 3 meters of visibility to enter a cave
6. Minimum 100 cu. ft. /2832 liters of gas to enter a cave
7. No passages in which divers are forced to take off and/or manipulate their equipment
8. Unlimited navigation decisions
9. No planned decompression
10. No scooter or rebreather diving
11. No exploration or line/line marker modification
12. No stage cylinder use allowed

Course Content and Duration

The UTD Cave 2 course is normally conducted over a 3 – 4 day period and involves a minimum of 24 hours of instruction (lecture and in-water) designed to instill divers with an appreciation for the dangers, challenges and beauty of the cave environment. Special emphasis here will be placed on the unique challenges posed by overhead exposure and the identification, management and resolution of life-threatening adversity.

Course requirements include nine (9) hours of academics and eight (8) dives at a minimum of two different locations. One experience dive should be at a different cave site conditions permitting.

Texts

1. Online Classroom Materials – Cave Diver
2. Gas Planning Worksheet
3. Cave Diver DVD and Essentials of Overhead Diving DVD recommended

Academic Topics

1. UTD organization, limits of training, and course completion requirements.
2. Conservation.
3. Accident analysis.
4. Reel and guideline use.
5. Dive team order and protocols.
6. Touch contact.
7. Use of safety spools and reels.
8. Complex navigation skills: T's, Jumps, Gaps.
9. Use of maps.

Land Drills & Topics

1. UTD equipment configuration
2. Reel and guideline use in standard operating procedures.
3. Team order, positioning and protocols.
4. All equipment failures
5. Use of safety spools/reels.
6. Reel and guideline use in emergency procedures, including touch contact and gas-sharing techniques.
7. Lost diver procedures.
8. Lost guideline procedures.
9. Navigation skills and line marking protocols.
10. Visual referencing skills.
11. Line entanglement procedures (including cutting and repairing guideline).

Required Dive Skills & Drills

1. All skills and drills as outlined in the General Diving Skills, Section 1.5.
2. Pre-dive planning to include:
    - Assess and review diving limitations
    - Dive plan review
    - Equipment review
    - Equipment familiarization
    - Map use

3. Navigation, to include:
   - Visual reference
   - Guideline and marker use
   - Limited and simulated zero visibility
   - Gaps, Jumps and T's
4. Procedures for gas failures; including valve manipulation, air-sharing, and regulator switching (as appropriate), included but not limited to zero visibility scenarios
5. Demonstrate proficiency in safe diving techniques, including pre-dive preparations, in-water activity, and post-dive assessment.
6. Gas-sharing scenarios to include:
   - Breath hold management
   - Out of gas diver
   - Gas-sharing of at least 200 feet/60 meters
   - Through a restriction in single file
7. Use of various propulsion techniques according to environment (silt, high flow, delicate)
8. Use of touch contact for limited and simulated zero visibility situations.
9. Use of line following techniques for limited/no visibility experiences.
10. Demonstrate the efficient deployment of a reserve light in less than 30 seconds.
11. Demonstrate excellent buoyancy control skills.
12. Perform a Lost Diver drill while remaining calm, horizontal and neutrally buoyant.
13. Perform a Lost Line drill while remaining calm, horizontal and neutrally buoyant.
14. Demonstrate effective valve-management by switching regulators, shutting down a valve in less than 15 seconds, and then returning the valve to the open position again in less than 15 seconds.
15. Demonstrate proficiency with guideline management in the following situations:
   - Simulated zero visibility line following; this would incorporate touch-contact skills
   - Efficient deployment of the guideline while following international protocol
   - Efficient removal of the guideline
16. Resolving line entanglement scenarios
17. Demonstrate proficiency with navigational procedures and protocols to include at least 4 navigational decisions (T's and Jumps, with a minimum of one each).
18. Unconscious diver recovery simulation, including horizontal swim recovery over a minimum distance of 100 feet/ 30 m in the open water.

Equipment Requirements

1. All equipment noted in paragraph 3.0
2. One safety spool per diver, with a minimum of 150 feet/50 meters of line, knotted each 30'/10m.
3. Three jump/gap spools per team, each with a minimum of 100 feet/ 30 meters of line.
4. One primary reel per team, with a minimum of 400 feet/120 meters of line.
5. Personal markers (at least 10 directional and 10 non-directional).

3-420 Cave 3

Purpose

UTD Cave 3 is a “technical cave course.” This very demanding cave training seeks to refine the cave diving techniques of certified Cave 2 divers who have mastered the requirements of UTD Technical 1. To succeed, students must be experienced in the fundamental aspects of cave diving and comfortable in the use of stage bottles and a single deco gas for decompression.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6.
2. Must be a minimum age of 21 years of age.
3. UTD Cave Diver with a minimum of 25 non-training dives at the UTD Cave 2 level or above.
4. UTD Technical 1 or equivalent, with a minimum of 25 non-training technical decompression dives. Divers who were not previously trained by UTD must first secure the approval of the UTD instructor before entering this class and must be prepared to engage in supplemental training to remedy any training deficiencies. Additional time and fees are at the discretion of the instructor.
5. Must have proof of at least 200 logged non-training dives, with at least 60 non-training dives in double tank/cylinder configuration.
6. Must be able to swim at least 400 yards/365 meters in less than 14 minutes without stopping.
7. Must be able to swim a distance of at least 60 feet/18 meters on a breath hold.

Course Limits

1. General Training Limits as outlined in Section 1.4.
2. Student to Instructor ratio is not to exceed 3:1 during any overhead diving activity.
3. Gas consumption: 1/3rd for penetration and a minimum of 2/3 of gas supply for cave exit or enough to conduct a swimming exit on open circuit, depending on team size, equipment redundancy and cave conditions.
4. No critical skills training dives are to exceed a depth of 100 feet / 30 meters.
5. Maximum depth 160 feet / 48 meters
6. Minimum 10 feet/3 meters of visibility to enter a cave.
7. Minimum 100cft/2832 liters of gas to enter a cave.
8. A maximum of two bottles (either stage or deco)
9. No scooter diving
10. No rebreather diving
11. No goal-oriented dives.

Course Content

Training requirements include a minimum of six (6) cave dives at a minimum of three different diving locations. Special emphasis will be placed on the demands of extended overhead penetration, advanced navigation techniques (including traverses, circuits and siphons) advanced gas management, restrictive passage negotiation procedures, precision propulsion techniques, decompression risk, management and protocol, and extensive stage bottle management.

UTD Cave 3 training is normally conducted over a 3 day period, and involves a minimum of 24 hours of instruction (lectures and in-water) designed to extend the divers’ overhead skills and

appreciation for the dangers, challenges and beauty of the cave environment. Upon completion of Cave 3 students may conduct a rebreather endorsement if already certified as a UTD mCCR/ pSCR rebreather diver.

Online Classroom Courses and Text

1. Online Classroom Materials – Technical Cave Diver
2. Technical Gas Planning Worksheet
3. Technical Diver and Cave Diver DVDs are recommended

Academic Topics

1. Reel and guideline use.
2. Dive team order and protocols.
3. Touch contact.
4. Deco bottle procedures in the overhead environment.
5. Complex navigation skills, including circuits and traverses.

Land Drills and Topics

1. Reel and guideline use in standard operating procedures.
2. Team order and protocols.
3. Reel and guideline use in emergency procedures, including touch contact and air-sharing techniques, including zero visibility.
4. Advanced navigation skills, including circuits and traverses.
5. Visual referencing skills.
6. Stage and deco bottle configuration and procedures.

Required Dive Skills & Drills

1. All skills and drills as outlined in the General Diving Skills, Section 1.5.
2. Pre-dive planning to include:
   - Assess and review diving team limitations,
   - Dive plan review,
   - Equipment review,
   - Equipment familiarization,
   - Map use, demonstrating ability for basic map reading.
3. Navigation, to include:
   - Visual reference,
   - Guideline use,
   - Limited and simulated zero visibility.
4. Procedures for gas failures; including valve manipulation, gas-sharing, and regulator switching (as appropriate).
5. Demonstrate adequate mask switching.
6. Use of various propulsion techniques according to conditions.
7. Use of touch contact for limited and simulated zero visibility situations.
8. Use of line following techniques for limited/no visibility situations.
9. Demonstrate the effective deployment of a reserve light in less than 30 seconds.
10. Demonstrate excellent buoyancy control skills.
11. Perform a Lost Diver drill while remaining calm, horizontal and neutrally buoyant.
12. Perform a Lost Line drill while remaining calm, horizontal and neutrally buoyant in simulated zero visibility conditions.

13. Demonstrate effective valve-management by switching regulators, shutting down a valve in less than 10 seconds and returning the valve to the open position again in less than 10 seconds.
14. Demonstrate proficiency with guideline management in the following situation:
    - Simulated zero visibility line following; this would incorporate touch-contact skills,
    - Efficient deployment and retrieval of the guideline.
15. Problem resolution, including line entanglement, navigation in restrictive areas, and multiple line management.
16. Demonstrate advanced navigational technique by successfully planning at least 2 circuits and/or traverses.
17. Demonstrate adequate procedures to enter and exit a restriction.
18. Demonstrate a calm demeanor while sharing gas in a cave exit for at least 900 feet/300 meters.
19. Demonstrate a calm demeanor while sharing gas through a restriction, minimizing ceiling impact.
20. Demonstrate a calm demeanor while sharing gas in simulated zero visibility for at least 600 feet/200 meters.
21. Demonstrate an understanding of the use of stage cylinders for the **Purpose** of extending penetration and deco bottle to accelerate and enhance decompression.
22. Drop stage and decompression cylinders with minimum cave impact and without changing buoyancy 3 feet/1 meter specifically to avoid any visibility reduction.
23. Retrieve decompression bottles and switch bottles in simulated zero visibility
24. Demonstrate stage bottle gas sharing scenarios within the team.
25. Demonstrate the proper use of stage bottles in restrictions.
26. Rescue and emergency procedures.

Equipment Requirements

1. All equipment noted in paragraph 3.0.
2. Three jump/gap spools per diver, each with a minimum of 100 feet/30 meters of line.
3. One safety spool per diver with a minimum of 150 feet/50 meters of line, knotted each 30 feet/10 meters.
4. One primary reel per team, with a minimum of 400 feet/120 meters of line.
5. At least twenty line markers, of which at least ten should be directional (line arrows) and ten non-directional.
6. 1 Oxygen or Nitrox 50 decompression bottle.
7. Drysuit with electric heating highly recommended.

3-425 Cave Gold

Purpose

UTD Cave Gold is UTD's Expedition Cave Diver training program. It is the culmination of a comprehensive variety of UTD cave instruction designed to establish cave diving excellence and facilitate deep, mixed gas, side mount, rebreather, and exploration diving in the cave environment. This training is a mastery level course developed specifically for adept cave divers who are seeking to use these skills in aggressive, yet safe exploration-oriented cave diving. Further, emphasis here is placed on advanced and maximum decompression theory, gas mixture and management, the control of extreme exposures to oxygen, long penetrations utilizing DPV/Scooters and aggressive and/or deep rebreather cave penetrations and/or cave exploration diving.

Participants must be experienced rebreather and cave divers who are dedicated to mastering the art of cave diving. Participants must be physically fit, emotionally stable and highly motivated. This level of training is essential for anyone considering extreme rebreather cave diving exploration. The UTD Expedition Cave Diver is a role model and is strongly encouraged to mentor up and coming cave divers.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6.
2. Must be a minimum 21 years of age.
3. Must be a certified UTD Scooter Cave Diver, UTD Rebreather Cave Diver, UTD Technical Cave Diver, UTD Advanced Sidemount Cave Diver and UTD Trimix Diver
4. Must have proof of at least 750 logged dives, with at least 300 dives in a double tank/ cylinder DIR configuration; 200 of these must be cave dives in multiple destinations, and 100 of these must be with stages and/or deco bottles, 100 in Sidemount configuration 100 with DPV/scooter, and 200 Rebreather dives.
5. Must be able to swim at least 400 yards/365 meters, in less than 12 minutes without stopping.
6. Must be able to swim a distance of at least 60 feet/18 meters on a breath hold.

Course Limits

1. General Training Limits as outlined in Section 1.4.
2. Student to Instructor ratio is not to exceed 2:1 during any overhead diving activity.
3. Gas consumption: Rebreather gas use must leave a minimum supply for OOG O/C cave exit from furthest penetration.
4. No training dives are to exceed an equivalent narcotic depth of 100 feet/30 meters.
5. Two rebreather dives must be between 200 feet/60 meters and 250 feet/75 meters.
6. Two dives in which the total deco time per dive is at least 1 hour.
7. No decompression time or depth limitations.

Course Content and Duration

UTD Expedition Cave Diver training is structured around two separate periods.
One training period is skill based with a minimum 5-day period consisting of at least five rebreather dives, at least 4 of which must be using multiple scooters and stages, four of which must be Trimix dives beyond 160 feet/48 meters with decompression.

The second period is oriented towards providing divers with practical, exploration-grade rebreather cave experience. This is accomplished by engaging them in dives with a UTD instructor and within a UTD (or affiliated organization) diving project. UTD representatives may structure this time in many different formats and are encouraged to increase the stated minimums.

Texts

1. UTD Online Classroom Materials – Expedition Cave Diver.
2. Gas Planning Worksheet.
3. Cave Diver, Technical, Scooter and Essentials of Rebreather DVDs (recommended).

Academic Topics

Lecture topics will focus on the preparation and execution of extended range exploration, including methods for managing the eventualities associated with long-term immersion.

1. Multiple scooter procedures.
2. Long range rebreather cave diving planning.
3. Maximum cave decompression strategy.
4. Habitat and electric heating.
5. In-water recompression.
6. Project basics.
7. Team building.
8. Exploration techniques.

Land Drills and Topics

1. Use of safety spools/reels.
2. Reel and guideline use in emergency procedures including touch contact and air-sharing techniques.
3. Lost diver procedures.
4. Lost guideline procedures.
5. Advanced navigation skills including gaps and jumps.
6. Visual referencing skills.
7. Exploration line laying responsibilities and protocol
8. Advanced surveying techniques and map making
9. Multiple bottle handling.
10. Scooter towing procedures and protocol.
11. Rebreather failures protocol.

Required Dive Skills & Drills

1. All skills and drills as outlined in the General Diving Skills, Section 1.5.
2. Pre-dive planning to include:
3. Assess and review diving limitations,
4. Dive plan review,
5. Equipment review,
6. Equipment familiarization.
7. Navigation, to include:
8. Visual reference,
9. Guideline use,
10. Limited and simulated zero visibility.

11. Procedures for gas failures; Rebreather Gas Injection system, tank valve manipulation, gas-sharing, and regulator switching as appropriate.
12. Demonstrate proficiency in safe diving techniques, including pre-dive preparations, in-water activity, and post-dive assessment.
13. Gas-sharing scenarios to include:
14. Breath hold management,
15. Out of gas diver,
16. Gas-sharing of at least 1000 feet/300 meters,
17. Comfortably swim at least 200 feet/60 meters without a mask while gas-sharing
18. Use of various propulsion techniques.
19. Use of touch contact for limited and simulated zero visibility situations.
20. Use of line following techniques for limited/no visibility situations for 500 feet/150 meters.
21. Demonstrate the efficient deployment of a reserve light in less than 10 seconds.
22. Demonstrate excellent buoyancy control skills.
23. Perform a lost diver drill while remaining calm, horizontal and neutrally buoyant.
24. Perform a lost line drill while remaining calm, horizontal and neutrally buoyant in zero visibility conditions.
25. Demonstrate effective valve-management by switching regulators, shutting down a valve and returning the valve to the open position again.
26. Demonstrate proficiency with guideline management in the following situation:
27. Simulated zero visibility line following; this would incorporate touch-contact skills,
28. Efficient deployment and retrieval of the guideline,
29. Problem resolution including line entanglement, navigation in restrictive regions, and multiple line management.
30. Demonstrate advanced navigational ability by completing at least two jumps and successfully completing a circuit and/or traverse.
31. Demonstrate a calm demeanor while sharing air in simulated zero visibility for at least 1000'/300m.
32. Demonstrate effective and proficient use of rebreather for the **Purpose** of extending penetrations.
33. Demonstrate facility with advanced decompression procedures by: 1) demonstrating the ability to calculate decompression "on the fly" and 2) by recalculating decompression obligations in the event of a lost decompression gas.
34. Demonstrate the ability to manage failed rebreather, regulators, first and second stages.
35. Demonstrate the ability to safely carry out all decompression obligations assuming the loss of rebreather and all backgas.
36. Demonstrate efficient, safe and ecological use of scooters.
37. Demonstrate the ability to run a guideline while scootering.
38. Demonstrate the ability to air-share while scootering through cave.
39. Demonstrate the ability to tow a diver whose diver propulsion vehicle has failed.
40. Demonstrate the ability to valve-breathe and hose-breathe.
41. Perform the following RB test:
    - O2 drop calculation,
    - Volume drops,
    - UTD PO2 times cycle.
42. Efficiency test:
    - Demonstrate proficiency with rebreather use and failures in cave environments.
    - Unit flooding recovery,
    - Hyperoxic mix problem solving,
    - Hypoxic mix problem solving,
    - Demonstrate ability for cave RB bailout exit with RB O2 bottle failure (mCCR),
    - Demonstrate ability for cave RB bailout exit with main bottom gas supply failure,
    - Demonstrate ability for cave OC bailout exit with catastrophic rebreather failure,
    - Demonstrate mixed team (RB and OC) dive planning.

Equipment Requirements

1. All equipment noted in paragraph 3.0.
2. Rebreather in UTD configuration.
3. RB Backgas cylinders to be AL 80's/85's/12's and 125's / 20lt.
4. Double isolation manifold for RB backgas.
5. Five spools / reels, each with a minimum of 100’/30m of line per diver. One spool line must be knotted each 30’/10m.
6. One primary reel per team, with a minimum of 400 feet/120 meters of line. Line must be knotted each 10’/3m.
7. At least ten line markers, of which at least five should be directional (line arrows) and five non-directional.
8. 4 stage bottles, 70’/21m, 120’/36m, 190’/57m and 240’/72m (AL80, 11L).
9. 1 Oxygen 6m bottle, (AL40, 7L).
10. 5 stage regulators (with QC6).
11. 2 Tank/scooter leashes.
12. RB cleaning kit.
13. Fresh sensors and scrubber material.
14. Drysuit.
15. Mixed gas analyzer and gas transfer whip (one each per team).
16. Electric dry suit heating recommended.

3-45 Wreck Penetration Classes

3-450 Recreational Wreck Diver
TBA

3-452 Wreck Penetration 1

Introduction

Wrecks are an obvious attraction to any diver: they hold promise of history, of mystery, and going where few dare. It is an underwater haunted house. Something often forgotten is that they also hold a tremendous potential for danger. Not only can the gear be complicated to the improperly trained or unfocused diver, but a stressful event that leads to poor decision making can occur. This class is designed to both instruct the student in techniques for proper team wreck diving but also to simulate “failures” in a controlled manner to ensure the retention of protocols even when experiencing stress. Always train beyond your level of diving as opposed to diving beyond your level of training.

The UTD Wreck Penetration course follows the UTD Overhead Protocols course, which must have been completed with 12 months of the start of Wreck Penetration. OHP presents critical skills necessary to function safely within a team in an overhead environment, but is generally completed in 30’/9m of open water simulating blackout conditions. Once the Overhead Protocols prerequisite has been satisfied, you can move on to Wreck Penetration.

In the UTD Wreck Penetration 1 course you will learn team protocols, gas management, environmental awareness, laying and retrieving guideline, following the line, and become familiar with the failures associated with wreck penetration. Some of the failures include valve failures, no visibility guideline protocols, lost diver and lost line exercises. The class also includes a series of experience dives inside the wreck. All protocols and procedures are derived from the UTD overhead environment procedures and are applied to wreck diving. Historically, introductory wreck classes have been so heavily diluted down that very little information remains. This class provides an excellent foundation for divers to build their wreck diving experience and a blue print to prepare for UTD Wreck Penetration 2, UTD Wreck Penetration 3, and UTD Wreck Penetration Gold.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Minimum age of 18
3. Completed UTD registration process
4. UTD Essentials with either Overhead Technical endorsement or equivalent
5. UTD Recreational 2 with doubles endorsement or equivalent
6. UTD Overhead Protocols within the last 12 months
7. A minimum of 100 dives beyond OW certification, 50 of which must be non-training dives (not part of a class)
8. All participants must be able to swim at least 300 yards in 14 minutes or be able to swim 800 yards in 18 minutes with mask and fins.
9. All participants must be able to swim a distance of at least 50’ (12m) on a single breath hold or demonstrate an air share swim where the OOA diver swims at least 50’ (12m) to the donating diver
10. All participants must demonstrate a rescue of a diver simulating oxygen toxicity

Duration

The UTD Wreck Penetration 1 course is normally conducted over a three day period after the UTD Overhead Procedures class. UTD Wreck Penetration 1 may be combined with UTD Overhead Protocols to form a six day class. As a standalone course, it involves a minimum of 24 hours of instruction to include classroom, dry runs, and in-water work and as a combined course it is a minimum of 40 hours of instruction.

Course Limits

1. General Training Limits as outlined in Sections 1.4
2. All dives are to maintain a working PO_2 of no greater than 1.4
3. All dives are NO DECO dives using Minimum Decompression
4. Maximum training depth is 100' (30m)
5. No stage bottles or deco bottles
6. Standard gas is Nitrox 32 or 25/25 (if certified)
7. Standard UTD/DIR configuration to include either double tank Backmount or sidemount.
8. Maximum penetration distance is 400 feet/120 meters (use of one main guideline only)
9. Maximum penetration is 1/3rd of gas after Rock Bottom has been removed
10. Student to Instructor ratio is a maximum of 6:1 in the classroom and dry runs, 4:1 for all open water in-water sessions, and 3:1 for any overhead environment in-water sessions.

Texts & Online Classroom

Required

1. Online Online Classroom Materials – Wreck Penetration
2. Technical Diver Worksheet

Recommended

1. Technical DVD is recommended

Academic Topics

1. UTD organization, limits of training, and course completion requirements
2. Working knowledge (including setup and failures) of a double tank configuration
3. Reel and guideline use
4. Dive team order and protocols
5. Touch contact
6. Use of safety spools and reels
7. Basic navigation skills
8. Extensive practice/use and failure of guidelines and protocols
9. The history and practice of minimum decompression
10. Physics, physiology, tables and operational considerations

Land Drills & Topics

1. Use of double cylinders
2. Line work (running line, tie-offs, team line protocol)
3. Special considerations for diving in an overhead environment
4. Buddy and team awareness in an overhead environment
5. Communication skills
6. Gas management based on strict rule of thirds plus rock bottom
7. Appropriate risk evaluation and dive planning for wreck penetration
8. Review of finning techniques and diver trim for silty environments
9. Use of safety spools/reels

10. Reel and guideline use in emergency procedures, including touch contact and air-sharing techniques
11. Lost diver procedures
12. Lost guideline procedures
13. Basic navigation skills
14. Visual referencing skills

Required Dive Skills & Drills

1. All skills and drills as outlined in the general diving skills as outlined in Section 1.5.
2. Pre-dive planning to include:
    a. Assess and review diving limitations
    b. Team dive plan review
    c. Equipment review
    d. Equipment familiarization
3. Navigation, to include:
    a. Visual reference
    b. Guideline use
    c. Limited and simulated zero visibility
4. Procedures for gas failures, including valve manipulation, air-sharing, and regulator switching (as appropriate).
5. Demonstrate proficiency in safe diving techniques, including pre-dive preparations, in-water activity, and post-dive assessment.
6. Air-sharing scenarios to include:
    a. Breath hold management
    b. Out of air diver
    c. Air-sharing of at least 200 feet/60 meters
7. Use of various propulsion techniques.
8. Use of touch contact for limited and simulated zero visibility situations.
9. Use of line following techniques for limited/no visibility experiences.
10. Demonstrate the efficient deployment of a reserve light in less than 30 seconds.
11. Demonstrate excellent buoyancy control skills.
12. Perform a Lost Diver drill while remaining calm and maintaining a horizontal attitude and neutral posture.
13. Perform a Lost Line drill while remaining calm and maintaining a horizontal attitude and neutral posture.
14. Demonstrate effective valve-management by switching regulators, shutting down a valve in less than 15 seconds, and then returning the valve to the open position again in less than 15 seconds or a complete valve drill in 2 minutes.
15. Demonstrate proficiency with guideline management in the following situations:
    a. Simulated zero visibility line following; this would incorporate touch-contact skills
    b. Efficient deployment of the guideline
    c. Efficient removal of the guideline
16. Resolving line entanglement.

Equipment Specifications

1. All equipment noted in paragraph 3.0
2. One primary reel per team, with a minimum of 200 feet/60 meters of line
3. One safety spool with at least 100 feet/30 meters of line
4. At least three (3) line markers of which at least two (2) should be directional (line arrows) and one (1) non-directional. Diver's initials or other identifying information should be readily visible.

3-455 Wreck Penetration 2

Introduction

The UTD Wreck Penetration 2 course is the next step in the wreck penetration series of classes. The Wreck Penetration 2 course is designed to prepare you for more advanced wreck dives utilizing a maximum of two bottles (either two deco bottles or a single stage bottle + one deco bottle) in addition to back gas to penetrate wrecks, opening the way for longer penetration times and access to deeper wrecks. Students will expand their knowledge of gas management by adding these additional bottles with the use of doubles, laying and retrieving guideline, following the line, and become familiar with the failures associated with wreck penetration. The failures will expand on what was learned in the UTD Wreck Penetration 1 course. All protocols and procedures are derived from the UTD overhead environment procedures and are applied to wreck diving. This class provides an excellent foundation to build wreck diving experience and prepare for the challenges found during the UTD Wreck Penetration 3 course.

Once you have been inside a wreck it is obvious to most divers that being able to explore the wreck further is critical. Being able to explore the engine room of your favorite wreck is something few people get to do. Often forgotten is that by pushing the distance of penetration in the overhead, the risk is also increased which is why you need to be properly trained.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Minimum age of 21
3. Completed UTD registration process
4. UTD Wreck Penetration 1 (no equivalent certification allowed)
5. UTD Technical 2 or equivalent with assessment
6. A minimum of 125 dives beyond OW certification. 50 of which must be non-training dives (not part of a class)
7. All participants must be able to swim at least 300 yards in 14 minutes or be able to swim 800 yards in 18 minutes with mask and fins
8. All participants must be able to swim a distance of at least 50’ (12m) on a single breath hold or demonstrate an air share swim where the OOA diver swims at least 50’ (12m) to the donating diver
9. All participants must demonstrate a rescue of a diver simulating oxygen toxicity

Duration

The UTD Wreck Penetration 2 course is normally conducted over a five day period following the UTD Wreck Penetration 1 course. UTD Wreck Penetration 2 may not be combined with any other class. It involves a minimum of 40 hours of instruction to include classroom, dry runs, and in-water work.

Course Limits

1. General Training Limits as outlined in Sections 1.4
2. All dives are to maintain a working PO_2 of no greater than 1.4
3. Max training depth is 200’ (60m)
4. All dives are decompression dives with a maximum of 2 deco bottles or 1 stage bottle and 1 deco bottle depending on the depth of the dive.
5. 1 stage bottle is allowed either inside or outside of the wreck
6. Standard gases are Nitrox 32, 25/25, 21/35, 18/45, Nitrox 50, and Oxygen

7. Standard UTD/DIR configuration to include either double tank Backmount or sidemount.
8. Max penetration distance is 660 feet/200 meters
9. Maximum penetration is 1/3rd of gas after Rock Bottom has been removed
10. Student to Instructor ratio is a maximum of 6:1 in the classroom and dry runs, 4:1 in open water in-water sessions, and 3:1 in any overhead environment

Texts & Online Classroom

Required

1. Online Classroom Materials – Wreck Penetration Gold
2. Wreck Diver Worksheet
3. Technical DVD

Recommended

4. Student and Diver Procedures Manual

Academic Topics

1. UTD organization, limits of training, and course completion requirements
2. Working knowledge (including setup and failures) of a double tank configuration
3. Working knowledge (including setup and failures) of a stage bottles
4. Reel and guideline use
5. Navigational marker use (use of Arrows, Cookies, and REMS – include personal markings of these items)
6. Dive team order and protocols
7. Touch contact
8. Use of safety spools and reels
9. Navigation skills
10. Extensive practice/use and failure of guidelines and protocols
11. The history and practice of minimum decompression
12. Physics, physiology, tables and operational considerations

Land Drills & Topics

1. Use of double cylinders
2. Stage bottle handling
3. Line work (running line, tie-offs, team line protocol)
4. Navigational marker use
5. Special considerations for diving in an overhead environment
6. Buddy & Team awareness in an overhead environment
7. Communication skills
8. Gas management based on strict rule of thirds plus rock bottom
9. Appropriate risk evaluation and dive planning for wreck penetration
10. Review of finning techniques and diver trim for silty environments
11. Use of safety spools/reels
12. Reel and guideline use in emergency procedures, including touch contact and air-sharing techniques
13. Lost diver procedures
14. Lost guideline procedures
15. Basic navigation skills
16. Introduction to complex navigation (jumps and T's only)
17. Visual referencing skills

Required Dive Skills & Drills

1. All skills and drills as outlined in the general diving skills as outlined in Section 1.5.
2. Pre-dive planning to include:
    a. Assess and review diving limitations
    b. Dive plan review
    c. Equipment review
    d. Equipment familiarization
3. Navigation, to include:
    a. Visual reference
    b. Guideline use
    c. Jumps and T's
    d. Limited and simulated zero visibility
4. Procedures for gas failures, including valve manipulation, air-sharing, and regulator switching (as appropriate).
5. Demonstrate proficiency in safe diving techniques, including pre-dive preparations, in-water activity, and post-dive assessment.
6. Air-sharing scenarios to include:
    a. Breath hold management
    b. Out of air diver
    c. Air-sharing of at least 200 feet/60 meters
7. Use of various propulsion techniques.
8. Use of touch contact for limited and simulated zero visibility situations.
9. Use of line following techniques for limited/no visibility experiences.
10. Demonstrate the efficient deployment of a reserve light in less than 30 seconds.
11. Demonstrate excellent buoyancy control skills.
12. Perform a Lost Diver drill while remaining calm and maintaining a horizontal attitude and neutral posture.
13. Perform a Lost Line drill while remaining calm and maintaining a horizontal attitude and neutral posture.
14. Demonstrate effective valve-management by switching regulators, shutting down a valve in less than 15 seconds, and then returning the valve to the open position again in less than 15 seconds or a complete valve drill in 2 minutes.
15. Demonstrate proficiency with guideline management in the following situations:
    a. Simulated zero visibility line following; this would incorporate touch-contact skills
    b. Efficient deployment of the guideline
    c. Efficient removal of the guideline
16. Resolving line entanglement.
17. Stage bottle handling including but not limited to: bottle passing, gas switching/stowing, dropping and retrieving a bottle.

Equipment Specifications

1. All equipment noted in paragraph 3.0
2. One primary reel per team, with a minimum of 400 feet/120 meters of line
3. One safety spool with at least 100 feet/30 meters of line
4. At least five (5) line markers of which at least three (3) should be directional (line arrows) and two (2) non-directional. Diver's initials or other identifying information should be readily visible.

3-460 Wreck Penetration 3

The UTD Wreck Penetration 3 course is the third level in the Wreck Diving series of courses and it will prepare divers for advanced wreck penetrations utilizing multiple stage bottles and deco bottles in addition to back gas to penetrate wrecks. You will expand your knowledge of gas management by conducting multilevel decompression dives, laying and retrieving guideline with complex navigation, following the line, and hone the failures associated with wreck penetration. The failures will expand on what was learned in the UTD Wreck Penetration 2 course pushing the student in a controlled manner. All protocols and procedures are derived from the UTD overhead environment procedures and are applied to wreck diving. This class is for divers wishing to truly explore wrecks of various depths and complexity.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Minimum age of 21
3. Completed UTD registration process
4. UTD Wreck Penetration 2 (no equivalent certification allowed)
5. UTD Technical 3 or higher or equivalent with assessment
6. A minimum of 200 dives beyond OW certification. 75 of which must be non-training dives (not part of a class), 25 of which must be beyond 130 feet/40 meters utilizing Normoxic trimix/Trimix and decompression gases, and 25 of which must be wreck penetration dives.
7. All participants must be able to swim at least 300 yards in 14 minutes or be able to swim 800 yards in 18 minutes with mask and fins
8. All participants must be able to swim a distance of at least 50’ (12m) on a single breath hold or demonstrate an air share swim where the OOA diver swims at least 50’ (12m) to the donating diver
9. All participants must demonstrate a rescue of a diver simulating oxygen toxicity

Duration

The UTD Wreck Penetration 3 course is normally conducted over a seven day period including 10 dives. As a standalone course, it involves a minimum of 40 hours of instruction in the classroom, dry runs, and in-water work.

Course Limits

1. General Training Limits as outlined in Sections 1.4
2. All dives are to maintain a working PO_2 of no greater than 1.4
3. All dives use Ratio Deco
4. Max training depth is 250 feet/75 meters
5. A maximum combination of four stage/deco bottles are allowed on a given dive. No more than two of the bottles can be stage bottles and no more than three bottles can be deco bottles summing to a total of four bottles. All bottles are allowed either inside or outside of the wreck. In order to carry four bottles you must have a stage endorsement.
6. All standard gases are available to use as appropriate. All dives must maintain an END less than 100 feet/ 30 meters
7. All standard deco gases are available for use
8. Standard UTD/DIR configuration to include either double tank back mount or side mount.
9. Max penetration distance is unlimited
10. Maximum penetration is 1/3rd of gas after Rock Bottom has been removed

11. Student to Instructor ratio is a maximum of 6:1 in the classroom and dry runs and 3:1 for all in water sessions

Certification Limits

1. Depth: 250'/75m
2. Number of Deco/Stage bottles: 3 or 4 as currently certified

Texts & Online Classroom

Required
1. Online Classroom Materials – Technical Wreck
2. Wreck Diver Worksheet
3. Technical DVD

Recommended
1. Student and Diver Procedures Manual

Academic Topics

1. UTD organization, limits of training, and course completion requirements
2. Working knowledge (including setup and failures) of a double tank configuration
3. Working knowledge (including setup and failures) of a stage bottles
4. Reel and guideline use
5. Directional device use (use of Arrows, Cookies, and REMS – include personal markings)
6. Dive team order and protocols
7. Touch contact
8. Use of safety spools and reels
9. Basic and complex navigation skills
10. Extensive practice/use and failure of guidelines and protocols
11. The history and practice of Ratio Deco
12. Physics, physiology, tables and operational considerations

Land Drills & Topics

1. Review use of double cylinders
2. Multi-bottle Stage/Deco bottle handling (including gas switching/stowing and bottle dropping/retrieving)
3. Line work (running line, tie-offs, team line protocol)
4. Directional marker use
5. Special considerations for diving in an overhead environment
6. Buddy and team awareness in an overhead environment
7. Communication skills
8. Gas management based on strict rule of thirds plus rock bottom
9. Appropriate risk evaluation and dive planning for wreck penetration
10. Review of finning techniques and diver trim for silty environments
11. Use of safety spools/reels
12. Reel and guideline use in emergency procedures, including touch contact and air-sharing techniques
13. Lost diver procedures
14. Lost guideline procedures
15. Broken line, cut line, and line repair
16. Basic navigation skills
17. Complex navigation
18. Visual referencing skills

Required Dive Skills & Drills

1. All skills and drills as outlined in the general diving skills as outlined in Section 1.5.
2. Pre-dive planning to include:
    a. Assess and review diving limitations
    b. Dive plan review
    c. Equipment review
    d. Equipment familiarization
3. Navigation, to include:
    a. Visual reference
    b. Guideline use
    c. Limited and simulated zero visibility
4. Demonstrate proficiency in complex navigating
5. Procedures for gas failures, including valve manipulation, air-sharing, and regulator switching (as appropriate).
6. Demonstrate proficiency in safe diving techniques, including pre-dive preparations, in-water activity, and post-dive assessment.
7. Air-sharing scenarios to include:
    a. Breath hold management
    b. Out of air diver
    c. Air-sharing of at least 200 feet/60 meters
8. Use of various propulsion techniques.
9. Use of touch contact for limited and simulated zero visibility situations.
10. Use of line following techniques for limited/no visibility experiences.
11. Demonstrate the efficient deployment of a reserve light in less than 30 seconds.
12. Demonstrate excellent buoyancy control skills.
13. Perform a Lost Diver drill while remaining calm and maintaining a horizontal attitude and neutral posture.
14. Perform a Lost Line drill while remaining calm and maintaining a horizontal attitude and neutral posture.
15. Resolve a simulated broken/cut line.
16. Demonstrate effective valve-management by switching regulators, shutting down a valve in less than 15 seconds, and then returning the valve to the open position again in less than 15 seconds or a complete valve drill in 2 minutes.
17. Demonstrate proficiency with guideline management in the following situations:
    a. Simulated zero visibility line following; this would incorporate touch-contact skills
    b. Efficient deployment of the guideline
    c. Efficient removal of the guideline
18. Resolving line entanglement and navigating a restriction
19. Stage bottle handling including but not limited to: bottle passing, gas switching/stowing, dropping/retrieving a bottle, and bottle rotation (if applicable).

Equipment Specifications

1. All equipment noted in paragraph 3.0
2. One primary reel per team, with a minimum of 400 feet/120 meters of line
3. One safety spool with at least 100 feet/30 meters of line
4. One jump reel with at least 100 feet/30 meters of line
5. At least six (6) line markers of which at least three (3) should be directional (line arrows) and three (3) non-directional. Diver's initials or other identifying information should be readily visible.

3-465 Wreck Penetration Gold

This is the pinnacle wreck diving class and removes all depth, gas, and bottle restrictions from the UTD Wreck Penetration 3 diver. The course is taught over three days (one day of skills and two days of experience dives) and covers topics related to multi-bottle handling, cascading ratio deco, advanced wreck diving topics, exploration consideration, and other topics.

Prerequisites:

1. UTD Wreck Penetration 3 – no equivalents
2. UTD Technical 3 – no equivalents
3. Proof of 25 experience dives in UTD Wreck Penetration 3 and UTD Technical 3 range
4. In-water session(s) to cover
    - 120’/36m gas switching protocols
    - 70'/21m gas switch protocols
    - 20'/6m gas switch protocols
    - Multiple O2 Cycles

Student Skills Demonstration

1. Conduct complex navigation wreck penetration dives
2. Demonstrate ability to safely deploy a decompression bottle while maintaining buoyancy within a 3'/1m +- of target depth and within 1 minute.
3. Demonstrate ability to safely stow a decompression bottle while maintaining buoyancy within +- 3'/1m of target depth and within 1 minute.
4. Demonstrate ability to pass and receive a deco bottle while maintaining buoyancy within +- 3'/1m of target depth and within 1 minute.

3-5 Rebreather Classes

3-510 mCCR 1 Rebreather Diver

Purpose

The mCCR Rebreather Diver 1 is the first step to becoming a certified rebreather diver. This course is a foundational class that is designed to educate individuals in basic rebreather technologies and cultivate diver proficiency in the use of MX fully closed-circuit technology and how to apply it to recreational diving. The mCCR Rebreather Diver 1 course assumes that individuals are capable of single stage/deco bottle diving, but have no experience in the use of rebreather technology. This course will cover using a fully closed rebreather in recreational diving depths and staying within no decompression limits.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Must be a minimum age of 21 years of age.
3. Must have completed the online UTD mCCR 1 rebreather class and test.
4. Must have UTD Tech 1 or equivalent.
5. Must have a minimum of 125 dives.
6. Must be able to swim a distance of at least 60 feet/18 meters on a breath hold.
7. Must be able to swim at least 300 yards/275 meters in less than 12 minutes without stopping.
8. All participants must be able to tow a diver in full equipment, in the environment they will be diving in, for 10 minutes.
9. All participants must demonstrate the rescue of a diver simulating oxygen toxicity or unconsciousness.

Course Limits

1. General Training Limits as outlined in Section 1.4.
2. Student to Instructor ratio is not to exceed 4:1 during any in-water training.
3. Maximum depth 130 feet / 39 meters
4. Standard gases: Nitrox 32, 25/25
5. Stay within No Decompression Limits (NDL)

Texts

1. Online Classroom Materials – mCCR Diver 1
2. Gas Planning Worksheet
3. Rebreather Diver DVD is recommended

Course Content

The mCCR Rebreather Diver 1 course is normally conducted over a 7-day period, and cumulatively involves a minimum of 60 hours of instruction designed to provide a working knowledge of rebreather diving, including history, design, function, failures, tables, and operational considerations.

Course requirements include a minimum of ten (10) hours of academic review and 4 confined water dives (4 hours or 240 mins) and eight (8) rebreather dives (8 hours or 480 minutes), of which four (4) are critical skills dives and two (2) are experience dives.

Academic Topics

A. Purpose
- Risk
- Benefit
- Advantages
- Disadvantages

B. History

C. Types of Rebreather
- Semi Closed Active Addition
- Semi Closed Passive Addition
- Fully Closed System (eCCR and mCCR)

D. Common Components of a Rebreather and how they function
- Mouthpiece & hoses
- Counter lung
- CO2 Canister & Chemical Removal by the scrubber
- Gas Addition System
- Water System
- Gas Management & Information System

E. Inherent Risks of Rebreathers
- Hypoxia
- Hyperoxia
- Hypercapnia
- Hyperventilation

F. Introduction to the MX Rebreather
- MX Design
- Gas Circulation During Inhalation
- Gas Circulation During Exhalation
- Gas Changes
- O2 and Diluent Gas Addition
- Diving Logistics

G. MX Rebreather Alarms and Warnings
- Intrusion - water or moisture
- Failure Susceptibility
- Information Content
- Verification
- Physiological Monitoring

H. The Physics Behind a MX Rebreather
- O2 Toxicity
- Decompression
- Theory & Review
- Rebreather vs. Open Circuit
- Oxygen Consumption (VO2)

I. Configuration
- UTD/DIR Foundation
- MX Configuration
- Rebreather configured UTD/DIR style

J. MX DIR Rebreather Physical Design
- Components, Functions, Failures, Problem Recognition & Alarms, Problem Solving
- Mouthpiece, Double hoses, Check Valves & Bailout regulators
- Water Removal System
- CO2 Canister
- Breathing Loop

- BOV
- O2 and Diluent Addition Systems
- MX Diving Head

K. Problem Recognition & Management
- Scrubber Flooded leading to Hypercapnia
- CO2 Absorbent Failures leading to Hypercapnia
- Check Valve Failure leading to Hypercapnia
- Addition Failures leading Hypoxia
- Mechanical Failure leading to Hyperoxia
- Gas supply failures
- Diving Conditions leading to Hypoxia
- Bailout Scenarios
- Physiological Monitoring

L. The Importance of Instinctive Physiological Monitoring
- Pre Dive Planning & Preparation
- Gas Duration
- Gas Choice
- CO2 Absorbent Management
- Pre-dive setup and calibration
- Pre Dive checks
- Pre Dive Breathing

M. Pre-Dive Planning
- Gas Choice
- Gas Duration
- Gas management scenarios
- Decompression Procedures
- CO2 Absorbent Management & Duration
- Pre-dive checks/Vacuum Test
- Open Circuit Bailouts

N. Diving the MX mCCR Rebreather
- PPO2 Management
- Lung Volume
- Buoyancy - Drysuit/BCD
- Descents/Ascents
- Flow-checks
- Breathing Characteristics
- Monitoring the unit & Alarms
- Flooding & Failures
- Monitoring the gas
- Loop Purging with mask
- Internal and External Failures and problem solving

O. Post Dive Procedure
- Rinse and disinfecting unit after use
- Storing unit for long term

P. Perceived vs. True Work Of Breathing In Rebreather

Q. Need for continuing Education and skill reinforcement

R. Debunking Rebreather Misconceptions

Land Drills and In Water Topics

1. Pre Dive Setup and Calibration
2. MX Rebreather Function, Failures and Flow checks
3. Trim and Buoyancy
4. PPO2 Drop Test

5. Basic 6 mCCR Skills
6. S-Drills
7. Valves Drills
8. SMB Deployment
9. Rescues
10. Advanced procedures such as Gas-addition (O2/Diluent) Failures, pscr mode

Required Dive Skills & Drills

1. All skills and drills as outlined in the General Diving Skills, Section 1.5.
2. Assess and review diving limitations.
3. Understand and develop skills to master the priority assignment philosophy
4. Demonstrate the ability to perform the Pre Dive Setup and calibrate the unit.
5. Demonstrate proficiency with going to and from Closed circuit to Open Circuit
6. Demonstrate the ability to recognize, evaluate and correct any gas addition interruptions and/or failures, then terminating or continuing the dive as necessary.
7. Demonstrate the ability to recognize, evaluate and correct water intrusion, and what to do to remove excess water.
8. Demonstrate excellent buoyancy control skills.
9. Demonstrate proficiency with the Basic 6 CCR skills
10. Procedures for gas failures; including valve manipulation, air-sharing, and regulator switching as appropriate.
11. Lift bag/surface marker buoy deployment.
12. Be able to comfortably demonstrate at least two propulsion techniques that would be appropriate in delicate and/or silty environments.
13. Air-sharing scenarios for at least 200 feet/60 meters
14. Demonstrate effective valve-management by switching regulators, shutting down a valve and returning the valve to the open position.
15. Demonstrate water tight integrity of the unit by performing a vacuum and pressure test (Pre Dive Check)
16. Demonstrate the capacity to efficiently supply gas to an out of air diver.
17. Demonstrate the ability to efficiently manage gas addition systems with either hand.
18. Demonstrate efficient ability to perform 2 loop recoveries.
2. Demonstrate proficiency with Toxing Diver rescue.
3. Demonstrate proficiency with maintain a constant PPO2 within 0.2 of the instructor discretion

Equipment Requirements

14. Rebreather: MX mCCR Fully-closed circuit rebreather
15. Tank/Cylinders: Students are required to use tanks/cylinders that provide sufficient diluent and bailout to meet rock bottom standards and have a single outlet valve, which allows for the use of a single first stages and allows the diver to manipulate the tank valves.
    a. A single oxygen bottle with a single first stage is used to supply the rebreather with O2.
    b. The diluent/bailout bottle with a single first stage is used to supply the rebreather with gas. All dives must start with a minimum of 40cf/1200 liters of gas in bailout cylinder.

Regulator: A single first-stage from the diluent/bailout tank must supply the diver with bailout gas. This must supply the Bail out valve (BOV) and at least one open circuit regulator, a 7 foot/2 meter long hose with second stage for air share donation **Purpose**s. This must also supply the

BCD and Drysuit where applicable. There must be a pressure gauge on the diluent system to identify diluent/bailout gas quantity.

17. 1 Oxygen bottle with first stage and inlet hose to supply rebreather
18. Buoyancy Compensator: Back-mounted wings, mated with a harness and back plate
19. At least one depth-measuring device
20. Two timekeeping devices
21. Decompression tables
22. Mask and fins: fins must be of non-split variety
23. At least one cutting device
24. Underwater slate or Wet Notes
25. One reel/spool, with 100 feet/30 meters of line, per diver
26. Exposure suit appropriate for the Duration of exposure
27. At least one surface marker buoy per diver

3-520 mCCR 2 Rebreather Diver

Purpose

The UTD mCCR Rebreather Diver 2 course is a critical skills plus experience class designed to further educate individuals in the use of MX rebreather technology as it applies to technical diving depth limits and decompression. It will make divers proficient in the use of fully-closed circuit technologies while diving mixes that allow divers to push beyond the recreational depth limits, and allows divers to gain practical experience with their rebreather while learning to apply its use to their extended range activities. This course will cover using the fully closed rebreather in technical diving range while using a single bottle for bailout decompression.

Prerequisites

1. Must be a minimum age of 21 years of age.
2. Must meet UTD General Course Prerequisites as outlined in Section 1.6
3. Must have completed the online UTD rebreather class and test
4. Must be a UTD mCCR Rebreather 1 (or equivalent) and UTD Technical Diver or equivalent.
5. Must have at least 200 scuba dives beyond open water qualification. Fifty (50) must have been in doubles, with fifty (50) involving rebreathers.
6. Must have fifty (50) hours on a rebreather.
7. Must be able to swim a distance of at least 60 feet/18 meters on a breath hold.
8. Must be able to swim at least 300 yards/275 meters in less than 12 minutes without stopping.
9. All participants must be able to tow a diver in full equipment, in the environment they will be diving in, for 10 minutes. All participants must demonstrate the rescue of a diver simulating oxygen toxicity or unconsciousness

Course Limits

1. General Training Limits as outlined in Section 1.4.
2. Student to Instructor ratio is not to exceed 4:1 during any in-water training.
3. Maximum depth 160 feet / 45 meters.
4. Standard gases: Nitrox 32, 25/25, 21/35, 18/45.
5. Maximum decompression time 30 minutes.

Texts

1. Online Classroom Materials – mCCR Diver 2
2. Gas Planning Worksheet
3. Technical Diver and Rebreather Diver DVD is recommended

Course Content

The mCCR Rebreather Diver 2 course is normally conducted over a 5-day period, and cumulatively involves a minimum of 40 hours of instruction designed to provide a working knowledge of rebreather diving, including history, design, function, failures, tables, and operational considerations while using gas mixes that allow the diver to go beyond recreational depth limits and venture into decompression.

Course requirements include a minimum of ten (10) hours of academic review and ten (10) rebreather dives (10 hours or 600 mins) , of which six (6) are critical skills dives and four (4) are experience dives.

Academic Topics

A. Purpose
- Risk
- Benefit
- Advantages
- Disadvantages

B. History
C. Types of Rebreather
- Semi Closed Active Addition
- Semi Closed Passive Addition
- Fully Closed System (eCCR and mCCR)

D. Common Components of a Rebreather and how they function
- Mouthpiece & hoses
- Counter lung
- CO2 Canister & Chemical Removal by the scrubber
- Gas Addition System
- Water System
- Gas Management & Information System

E. Inherent Risks of Rebreathers
- Hypoxia
- Hyperoxia
- Hypercapnia
- Hyperventilation

F. Introduction to the MX Rebreather
- MX Design
- Gas Circulation During Inhalation
- Gas Circulation During Exhalation
- Gas Changes
- O2 and Diluent Gas Addition
- Diving Logistics

G. MX Rebreather Alarms and Warnings
- Intrusion - water or moisture
- Failure Susceptibility
- Information Content
- Verification
- Physiological Monitoring

H. The Physics Behind a MX Rebreather
- O2 Toxicity
- Decompression
- Theory & Review
- Rebreather vs. Open Circuit
- Oxygen Consumption (VO2)

I. Configuration
- UTD/DIR Foundation
- MX Configuration
- Rebreather configured UTD/DIR style

J. MX DIR Rebreather Physical Design
- Components, Functions, Failures, Problem Recognition & Alarms, Problem Solving
- Mouthpiece, Double hoses, Check Valves & Bailout regulators

- Water Removal System
- CO2 Canister
- Breathing Loop
- BOV
- O2 and Diluent Addition Systems
- MX Diving Head

K. Problem Recognition & Management
- Scrubber Flooded leading to Hypercapnia
- CO2 Absorbent Failures leading to Hypercapnia
- Check Valve Failure leading to Hypercapnia
- Addition Failures leading Hypoxia
- Mechanical Failure leading to Hyperoxia
- Gas supply failures
- Diving Conditions leading to Hypoxia
- Bailout Scenarios
- Physiological Monitoring

L. The Importance of Instinctive Physiological Monitoring
- Pre Dive Planning & Preparation
- Gas Duration
- Gas Choice
- CO2 Absorbent Management
- Pre-dive setup and calibration
- Pre Dive checks
- Pre Dive Breathing

M. Pre-Dive Planning
- Gas Choice
- Gas Duration
- Gas management scenarios
- Decompression Procedures
- CO2 Absorbent Management & Duration
- Pre-dive checks/Vacuum Test
- Open Circuit Bailouts

N. Diving the MX mCCR Rebreather
- PPO2 Management
- Lung Volume
- Buoyancy - Drysuit/BCD
- Descents/Ascents
- Flow-checks
- Breathing Characteristics
- Monitoring the unit & Alarms
- Flooding & Failures
- Monitoring the gas
- Loop Purging with mask
- Internal and External Failures and problem solving

O. Post Dive Procedure
- Rinse and disinfecting unit after use
- Storing unit for long term

P. Perceived vs. True Work Of Breathing In Rebreather

Q. Need for continuing Education and skill reinforcement

R. Debunking Rebreather Misconceptions

Land Drills and Topics

1. Pre Dive Setup and Calibration

2. MX Rebreather Function, Failures, Gas sharing, Flow checks
3. Manifold Failures
4. Gas-addition (O2/Diluent) Failures
5. Air-sharing
6. Water Clearing
7. Loop Recoveries
8. Rescues
9. Decompression Bottle Deployment

Required Dive Skills & Drills

1. All skills and drills as outlined in the General Diving Skills, Section 1.5.
2. Assess and review diving limitations.
3. Understand and develop skills to master the priority assignment philosophy
4. Demonstrate the ability to perform the Pre Dive Setup and calibrate the unit.
5. Demonstrate proficiency with going to and from Closed circuit to Open Circuit
6. Demonstrate the ability to recognize, evaluate and correct any gas addition interruptions and/or failures, then terminating or continuing the dive as necessary.
7. Demonstrate the ability to recognize, evaluate and correct water intrusion, and what to do to remove excess water.
8. Demonstrate excellent buoyancy control skills.
9. Procedures for gas failures; including valve manipulation, air-sharing, and regulator switching as appropriate.
10. Demonstrate the effective diagnosis and correct response to simulated rebreather problems to a level 2 or higher.
11. Lift bag/surface marker buoy deployment.
12. Be able to comfortably demonstrate at least two propulsion techniques that would be appropriate in delicate and/or silty environments.
13. Air-sharing scenarios for at least 200 feet/60 meters
14. Demonstrate effective valve-management by switching regulators, shutting down a valve and returning the valve to the open position.
15. Demonstrate water tight integrity of the unit by performing a vacuum and pressure test (Pre Dive Check)
16. Demonstrate the capacity to efficiently supply gas to an out of air diver.
17. Demonstrate the ability to efficiently manage gas addition systems with either hand.
18. Demonstrate efficient ability to perform 2 loop recoveries.
19. Demonstrate proficiency with Toxing Diver rescue.
20. Demonstrate proficiency with maintain a constant PPO2 within 0.2 of the instructor discretion
21. Demonstrate comfort with CC Decompression and deployment of OC decompression bottle.

Equipment Requirements

1. Rebreather: MX mCCR Fully-closed circuit rebreather
2. Tank/Cylinders: Students are required to use tanks/cylinders that provide sufficient diluent and bailout to meet rock bottom standards and have a single outlet valve, which allows for the use of a single first stages and allows the diver to manipulate the tank valves.
    a. A single oxygen bottle with a single first stage is used to supply the rebreather with O2.
    b. The diluent/bailout bottle with a single first stage is used to supply the rebreather with gas. All dives must start with a minimum of 40cf/1200 liters of gas in bailout cylinder.

Regulator: A single first-stage from the diluent/bailout tank must supply the diver with bailout gas. This must supply the Bail out valve (BOV) and at least one open circuit regulator, a 7 foot/2 meter long hose with second stage for air share donation **Purpose**s. This must also supply the BCD and Drysuit where applicable. There must be a pressure gauge on the diluent system to identify diluent/bailout gas quantity.

3. An Oxygen bottle with large enough volume to act as OC bailout decompression
4. Buoyancy Compensator: Back-mounted wings, mated with a harness and back plate
5. At least one depth-measuring device
6. Two timekeeping devices
7. Decompression tables
8. Mask and fins: fins must be of non-split variety
9. At least one cutting device
10. Underwater slate or Wet Notes
11. One reel/spool, with 100 feet/30 meters of line, per diver
12. Exposure suit appropriate for the Duration of exposure
13. At least one surface marker buoy per diver

3-530 mCCR 3 Rebreather Diver

Purpose

The UTD mCCR Rebreather Diver 3 course is designed to further educate individuals in the use of MX rebreather technology as it applies to deeper depth ranges and decompression schedules that require multi bottle decompression bailout. This course will make divers proficient in the use of fully-closed circuit technologies while diving Trimix, and allows divers to gain practical experience with their rebreather while learning to apply its use to their extended range trimix activities. Emphasis here is placed on advanced concepts such as rebreather theory, gas mixture/management, control of exposures to oxygen, and the fatal funnel (hyperoxia, hypoxia and hypercapnia.) However, the course is heavily experience based and deals most specifically with the practical implications of closed circuit rebreather diving.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6.
2. Must be a minimum age of 21 years of age.
3. Must be a UTD mCCR Rebreather 2 (equivalent not allowed) and UTD Trimix or equivalent.
4. Must have completed the online UTD mCCR rebreather class and test
5. Must have at least 400 scuba dives of which one hundred (100) must have been in doubles, with at least two hundred (200) involving a mCCR.
6. Must have two hundred (200) hours on a fully closed rebreather, fifty (50) of which must be in technical diving range and require decompression.
7. Must be able to swim a distance of at least 60 feet/18 meters on a breath hold.
8. Must be able to swim at least 400 yards/365 meters in less than 14 minutes without stopping.
9. All participants must be able to tow a diver in full equipment, in the environment they will be diving in, for 10 minutes.
10. All participants must demonstrate the rescue of a diver simulating oxygen toxicity or unconsciousness.

Course Limits

1. General Training Limits as outlined in Section 1.4
2. Student to Instructor ratio is not to exceed 3:1 during any in water training
3. Maximum depth 250 ft/75m
4. Standard UTD Trimix gases and decompression limits apply
5. No overhead environment diving
6. No goal-oriented dives

Texts

1. Online Classroom Materials – mCCR Diver 3
2. Gas Planning Worksheet
3. Technical Diver DVD is recommended

Content

The UTD mCCR Rebreather Diver 3 course is normally conducted over a 5-day period, and cumulatively involves a minimum of 40 hours of instruction designed to ensure a working knowledge of rebreather diving, including failure situations, and life-saving solutions. Topics

also include a review of decompression diving, oxygen tolerance, and other operational considerations central to the exploration of extended range environments with a rebreather.

Course requirements include a minimum of ten (10) hours of academic review and at least 10 (10) open water dives, of which four (4) will be critical skills dives and six (6) will be conducted in excess of 150 feet/45 meters and will include multi stage decompression. At least two (2) dives will be conducted below 200 feet/60 meters utilizing Trimix and multi bailout decompression bottles.

Academic Topics

A. Purpose
- Risk
- Benefit
- Advantages
- Disadvantages

B. History
C. Types of Rebreather
- Semi Closed Active Addition
- Semi Closed Passive Addition
- Fully Closed System (eCCR and mCCR)

D. Common Components of a Rebreather and how they function
- Mouthpiece & hoses
- Counter lung
- CO2 Canister & Chemical Removal by the scrubber
- Gas Addition System
- Water System
- Gas Management & Information System

E. Inherent Risks of Rebreathers
- Hypoxia
- Hyperoxia
- Hypercapnia
- Hyperventilation

F. Introduction to the MX Rebreather
- MX Design
- Gas Circulation During Inhalation
- Gas Circulation During Exhalation
- Gas Changes
- O2 and Diluent Gas Addition
- Diving Logistics

G. MX Rebreather Alarms and Warnings
- Intrusion - water or moisture
- Failure Susceptibility
- Information Content
- Verification
- Physiological Monitoring

H. The Physics Behind a MX Rebreather
- O2 Toxicity
- Decompression
- Theory & Review
- Rebreather vs. Open Circuit
- Oxygen Consumption (VO2)

I. Configuration
- UTD/DIR Foundation

- MX Configuration
- Rebreather configured UTD/DIR style

J. MX DIR Rebreather Physical Design
- Components, Functions, Failures, Problem Recognition & Alarms, Problem Solving
- Mouthpiece, Double hoses, Check Valves & Bailout regulators
- Water Removal System
- CO2 Canister
- Breathing Loop
- BOV
- O2 and Diluent Addition Systems
- MX Diving Head

K. Problem Recognition & Management
- Scrubber Flooded leading to Hypercapnia
- CO2 Absorbent Failures leading to Hypercapnia
- Check Valve Failure leading to Hypercapnia
- Addition Failures leading Hypoxia
- Mechanical Failure leading to Hyperoxia
- Gas supply failures
- Diving Conditions leading to Hypoxia
- Bailout Scenarios
- Physiological Monitoring

L. The Importance of Instinctive Physiological Monitoring
- Pre Dive Planning & Preparation
- Gas Duration
- Gas Choice
- CO2 Absorbent Management
- Pre-dive setup and calibration
- Pre Dive checks
- Pre Dive Breathing

M. Pre-Dive Planning
- Gas Choice
- Gas Duration
- Gas management scenarios
- Decompression Procedures
- CO2 Absorbent Management & Duration
- Pre-dive checks/Vacuum Test
- Open Circuit Bailouts

N. Diving the MX mCCR Rebreather
- PPO2 Management
- Lung Volume
- Buoyancy - Drysuit/BCD
- Descents/Ascents
- Flow-checks
- Breathing Characteristics
- Monitoring the unit & Alarms
- Flooding & Failures
- Monitoring the gas
- Loop Purging with mask
- Internal and External Failures and problem solving

O. Post Dive Procedure
- Rinse and disinfecting unit after use
- Storing unit for long term

P. Perceived vs. True Work Of Breathing In Rebreather

Q. Need for continuing Education and skill reinforcement

R. Debunking Rebreather Misconceptions

Land Drills and Topics

1. Pre Dive Setup and Calibration
2. MX Rebreather Function, Failures, Gas sharing, Flow checks
3. Manifold Failures
4. Gas-addition (O2/Diluent) Failures
5. Air-sharing
6. Water Clearing
7. Loop Recoveries
8. Rescues
9. Multiple decompression bottle management and deployment

Required Dive Skills & Drills

1. All skills and drills as outlined in the General Diving Skills, Section 1.5.
2. Access and review diving limitations.
3. Understand and develop skills to master the priority assignment philosophy
4. Procedures for gas failures; including valve manipulation, air-sharing, and regulator switching as appropriate.
5. Demonstrate the ability to deploy a lift bag/surface marker buoy in under two minutes while hovering stationary. Participants should not vary in depth more than 5 feet/1.5 meters.
6. Demonstrate the capacity to recognize, evaluate and correct floods, and then discharge excess water.
7. Demonstrate the effective diagnosis and correct response to simulated rebreather problems to a level 3 or higher.
8. Air-sharing scenarios for at least 200 feet/60 meters.
9. Demonstrate effective valve-management by switching regulators, shutting down a valve and returning the valve to the open position.
10. Demonstrate a clean and efficient removal of stage and/or decompression bottles while hovering horizontal. The participant must be capable of removing, replacing and plugging in a deco bottle in less than 90 seconds.
11. Demonstrate the ability to recognize the presence of elevated C02 levels.
12. Demonstrate the ability to comfortably switch gases using the gas addition manifold while maintaining good trim and neutral buoyancy.
13. Demonstrate proficiency in safe diving procedures, including assembly, vacuum and pressure test, pre-dive preparations, pre dive vacuum test, flow check, in-water activity and post dive assessment and break down.
14. Comfortably swim for at least 50' without a mask while diving breathing on Closed Circuit.
15. Demonstrate the ability to safely switch between Closed Circuit and Open Circuit
16. Efficiently and comfortably demonstrate how to donate air to an out of air diver in multiple air sharing episodes from Closed Circuit with one or more experiences to include a distance of at least 30 feet (9 meters).
17. Be able to comfortably demonstrate use, manipulation and failures of the gas addition system.
18. Demonstrate awareness of the working of a team member’s Rebreather and a concern for safety, responding quickly to visual cues and diver partner needs if the RB should fail.
19. Demonstrate proficiency with dive rescue techniques, including effective management of the following situations: assisting a panic stricken diver, a convulsing diver and an unconscious diver. Demonstrate reasonable proficiency with use of the Rebreather during ascents, descents and diving.

Equipment Requirements

1. Rebreather: MX mCCR Fully-closed circuit rebreather
2. Tank/Cylinders: Students are required to use tanks/cylinders that provide sufficient diluent and bailout to meet rockbottom standards and have a single outlet valve, which allows for the use of a single first stages and allows the diver to manipulate the tank valves.
    a. A single oxygen bottle with a single first stage is used to supply the rebreather with O2.
    b. The diluent/bailout bottle with a single first stage is used to supply the rebreather with gas. All dives must start with a minimum of 40cf/1200 liters of gas in bailout cylinder.

Regulator: A single first-stage from the diluent/bailout tank must supply the diver with bailout gas. This must supply the Bail out valve (BOV) and at least one open circuit regulator, a 7 foot/2 meter long hose with second stage for air share donation **Purpose**s. This must also supply the BCD and Drysuit where applicable. There must be a pressure gauge on the diluent system to identify diluent/bailout gas quantity.

3. 2 Decompression bottles (Nitrox 50 and Oxygen) with appropriate volume and regulators.
4. Buoyancy Compensator: Back-mounted wings, mated with a harness and back plate
5. At least one depth-measuring device
6. Two timekeeping devices
7. Decompression tables
8. Mask and fins: fins must be of non-split variety
9. At least one cutting device
10. Underwater slate or Wet Notes
11. One reel/spool, with 100 feet/30 meters of line, per diver
12. One primary reel per team, with a minimum of 300 feet/90 meters of line
13. Three lights: one primary and two secondary
14. Exposure suit appropriate for the Duration of exposure
15. At least one surface marker buoy per diver

3-540 mCCR Gold Rebreather Diver

Removes all depth and bottle restrictions. Details coming soon.

3-550 pSCR 1 Rebreather Diver

Purpose

The UTD pSCR Rebreather Diver 1 course is designed to educate individuals in basic rebreather technologies, cultivate diver proficiency in the use of pSCR (RB80-style) semi-closed circuit technology, and introduce divers to the use of enriched air. The Rebreather 1 course assumes that individuals are capable divers, but have limited experience in the use of rebreather technology.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6
2. Must be a minimum age of 21 years of age.
3. Must have completed the online UTD RB1 class and test
4. Must have UTD DIR Essentials of Tech or equivalent.
5. Must have a minimum of 75 dives.
6. Must be able to swim a distance of at least 60 feet/18 meters on a breath hold.
7. Must be able to swim at least 300 yards/275 meters in less than 12 minutes without stopping.

Course Limits

1. General Training Limits as outlined in Section 1.4.
2. Student to Instructor ratio is not to exceed 4:1 during any in-water training.
3. No stage decompression.
4. Maximum depth 130 feet / 39 meters.

Course Content

The UTD Rebreather 1 course is normally conducted over a 5-day period, and cumulatively involves a minimum of 40 hours of instruction designed to provide a working knowledge of rebreather diving, including history, design, function, failures, tables, and operational considerations.

Course requirements include a minimum of ten (10) hours of academics and ten (10) rebreather dives, of which eight (6) are critical skills dives and two (2) are experience open water dives.

Online Classroom Courses & Text

1. Online Classroom Materials – PSCR 1
2. Rebreather Planning Sheets
3. Rebreather DVD is recommended

Academic Topics

A. Purpose
   - Risk
   - Benefit
   - Advantages
   - Disadvantages

B. History
C. Types of Rebreather

- Semi Closed Active Addition
- Semi Closed Passive Addition
- Fully Closed System

D. Common Components of a Rebreather and how they function
- Mouthpiece & hoses
- Counter lung
- CO2 Canister & Chemical Removal by the scrubber
- Gas Addition System
- Automatic Water System
- Gas Management & Information System

E. Inherent Risks of Rebreathers
- Hypoxia
- Hyperoxia
- Hypercapnia
- Hyperventilation

F. Introduction to the pSCR (RB80-style) Rebreather
- pSCR (RB80-style) Design
- Gas Circulation During Inhalation
- Gas Circulation During Exhalation
- Gas Changes
- Passive Gas Addition
- Diving Logistics

G. pSCR (RB80-style) Rebreather Alarms and Warnings
- Intrusion
- Failure Susceptibility
- Information Content
- Verification
- Physiological Monitoring

H. The Physics Behind a pSCR (RB80-style) Rebreather
- O2 Toxicity
- Decompression
- Theory & Review
- Rebreather vs. Open Circuit
- Oxygen Consumption (RMV)

I. Configuration
- DIR Foundation
- pSCR (RB80-style) Configuration
- Rebreather configured DIR style

J. pSCR (RB80-style) DIR Rebreather Physical Design
- Components, Functions, Failures, Problem Recognition & Alarms, Problem Solving
- Mouthpiece, Double hoses, Check Valves & Bailout regulators
- Automatic Water Removal System
- CO2 Canister
- Main Bellows
- Inner Bellows & Overpressure Dump Valve
- Counter Lung Actuated Gas Addition Regulators

K. Problem Recognition & Management
- Scrubber Flooded leading to Hypercapnia
- CO2 Absorbent Failures leading to Hypercapnia
- Check Valve Failure leading to Hypercapnia
- Addition Failures leading Hypoxia
- Mechanical Failure leading to Hyperoxia
- Gas supply failures
- Diving Conditions leading to Hypoxia

- Bailout Scenarios
- Physiological Monitoring

L. The Importance of Instinctive Physiological Monitoring
- Pre Dive Planning & Preparation
- Gas Duration
- Gas Choice
- CO2 Absorbent Management
- Pre-dive checks

M. Pre-Dive Planning
- Gas Choice
- Gas Duration
- Gas management scenarios
- Decompression Procedures
- CO2 Absorbent Management & Duration
- Pre-dive checks/Vacuum Test
- Open Circuit Bailouts

N. Diving the pSCR (RB80-style) Rebreather
- Descents/Ascents on OC
- Flow-checks
- Buoyancy Control
- Breathing Characteristics
- Monitoring the unit & Alarms
- Flooding & Failures
- Monitoring the gas
- Loop Purging with mask

O. Post Dive Procedure
- Rinse hoses between dives on same day
- Rinse unit after 1 day's use
- Disinfect and dry hoses and unit after 5 day's use

P. Perceived vs. True Work Of Breathing In Rebreather

Q. Need for continuing Education and skill reinforcement

R. Debunking Rebreather Misconceptions

Land Drills and Topics

1. Rebreather Function, Failures, Gas sharing, Flow checks
2. Air Manifold Failures
3. Gas-addition Failures
4. Air-sharing

Required Dive Skills & Drills

1. All skills and drills as outlined in the General Diving Skills, Section 1.5.
2. Assess and review diving limitations.
3. Demonstrate the ability to recognize, evaluate and correct gas interruptions, terminating or continuing the dive as necessary.
4. Demonstrate the ability to recognize, evaluate and correct water intrusion, and what to do to remove excess water.
5. Demonstrate excellent buoyancy control skills.
6. Procedures for gas failures; including valve manipulation, air-sharing, and regulator switching as appropriate.
7. Lift bag/surface marker buoy deployment.
8. Be able to comfortably demonstrate at least two propulsion techniques that would be appropriate in delicate and/or silty environments.

9. Use of touch contact for limited and simulated zero visibility situations.
10. Reel and guideline use.
11. Air-sharing scenarios to include breath-hold management for air-sharing for at least 200 feet/60 meters
12. Demonstrate effective valve-management by switching regulators, shutting down a valve and returning the valve to the open position.
13. Demonstrate water tight integrity of the unit by performing a vacuum test
14. Demonstrate availability of rebreather supply gas through the use of a flow check.
15. Demonstrate the capacity to efficiently supply gas to an out of air diver.
16. Demonstrate the ability to efficiently manage gas addition.

3-560 pSCR 2 Rebreather Diver

Purpose

The UTD Rebreather 2 course is designed to further educate individuals in the use of pSCR (RB80-style) rebreather technology as it applies to decompression and mixtures other than air, make divers proficient in the use of semi-closed circuit technologies while diving gas mixtures other than air, and allow divers to gain practical experience with their rebreather while learning to apply its use to their extended range activities. Emphasis here is placed on essential concepts such as rebreather theory, gas mixture/management, control of exposures to oxygen, and hypercapnia. However, the course is heavily experience based and deals most specifically with the practical implications of rebreather diving.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6.
2. Must be a minimum age of 21 years of age.
3. Must be a UTD Rebreather 1 or equivalent and UTD Trimix 1 or equivalent.
4. Must have completed the online UTD RB2 class and test
5. Must have at least 200 scuba dives beyond open water qualification. Fifty (50) must have been in doubles, with twenty-five (25) involving stage decompression.
6. Must have one hundred (100) hours on a semi closed rebreather.
7. Must be able to swim a distance of at least 60 feet/18 meters on a breath hold.
8. Must be able to swim at least 400 yards/365 meters in less than 14 minutes without stopping.

Course Limits

1. General Training Limits as outlined in Section 1.4
2. Student to Instructor ratio is not to exceed 3:1 during any in water training
3. Maximum depth 200 ft/60 m
4. No overhead environment diving

Course Content

The UTD pSCR Rebreather 2 course is normally conducted over a 5-day period, and cumulatively involves a minimum of 40 hours of instruction designed to ensure a working knowledge of rebreather diving, including failure situations, and life-saving solutions. Topics also include a review of decompression diving, oxygen tolerance, and other operational considerations central to the exploration of extended range environments with a rebreather.

Course requirements include a minimum of twelve (12) hours of academics and at least eight (8) open water dives, of which at least four (4) will be conducted in excess of 100 feet/30 meters and will include stage decompression. At least two dives will be conducted below 150 feet/48 meters utilizing Trimix.

Online Classroom Courses & Text

1. Online Classroom Materials – PSCR 2
2. Rebreather Planning Sheets
3. Technical DVD is recommended

Academic Topics

A. Purpose
   - Risk
   - Benefit
   - Advantages
   - Disadvantages

B. Common Components of the pSCR (RB80-style) and how they function
   - Mouthpiece & hoses
   - Counter lung
   - CO2 Canister & Chemical Removal by the scrubber
   - Gas Addition System
   - Gas Management & Information System

C. Inherent Risks of Rebreathers
   - Hypoxia
   - Hyperoxia
   - Hypercapnia
   - Hyperventilation

D. Introduction to the pSCR (RB80-style) Rebreather
   - pSCR (RB80-style) Design
   - Gas Circulation During Inhalation
   - Gas Circulation During Exhalation
   - Gas Changes
   - Passive Gas Addition
   - Diving Logistics

E. pSCR (RB80-style) Rebreather Alarms and Warnings
   - Intrusion
   - Failure Susceptibility
   - Information Content
   - Verification
   - Physiological Monitoring

F. The Physics Behind a pSCR (RB80-style) Rebreather
   - O2 Toxicity
   - Decompression
   - Theory & Review
   - Rebreather vs. Open Circuit
   - Oxygen Consumption (RMV)

G. Configuration
   - DIR Foundation
   - pSCR (RB80-style) Configuration
   - Rebreather configured DIR style

H. pSCR (RB80-style) Rebreather Physical Design
   - Components, Functions, Failures, Problem Recognition & Alarms, Problem Solving
   - Mouthpiece, Double hoses, Check Valves & Bailout regulators
   - CO2 Canister & Scrubber bed
   - Inner Bellows & Overpressure Dump Valve
   - Counter Lung Actuated Gas Addition Regulators

I. Problem Recognition & Management
   - Scrubber Flooded leading to Hypercapnia
   - CO2 Absorbent Failures leading to Hypercapnia
   - Check Valve Failure leading to Hypercapnia
   - Addition Failures leading Hypoxia
   - Mechanical Failure leading to Hyperoxia
   - Gas supply failures
   - Diving Conditions leading to Hypoxia

- Bailout Scenarios
- Physiological Monitoring

J. The Importance of Instinctive Physiological Monitoring
- Pre Dive Planning & Preparation
- Gas Duration
- Gas Choice
- CO2 Absorbent Management
- Pre-dive checks

K. Pre-Dive Planning
- Gas Choice
- Gas Duration
- Gas management scenarios
- Decompression Procedures
- CO2 Absorbent Management & Duration
- Pre-dive checks and Vacuum Checks
- Open Circuit Bailouts

L. Diving the pSCR (RB80-style) Rebreather
- Initial in-water verification
- Descents/Ascents on OC
- Flow-checks
- Buoyancy Control
- Breathing Characteristics
- Monitoring the unit & Alarms
- Flooding & Failures
- Monitoring the gas
- Loop Purging with mask
- Gas Switches

M. Post Dive Procedures
- Rinse hoses between dives on same day
- Rinse unit after 1 day's use
- Disinfect and dry hoses and unit after 5 day's use

N. Need for continuing Education and skill reinforcement

Land Drills & Topics

1. Flow-checks
2. Manifold Failures
3. Gas-addition Failures
4. Air-sharing
5. Rebreather functions

Required Dive Skills & Drills

1. All skills and drills as outlined in the General Diving Skills, Section 1.5.
2. Access and review diving limitations.
3. Procedures for gas failures; including valve manipulation, air-sharing, and regulator switching as appropriate.
4. Demonstrate the capacity to recognize, evaluate and correct floods, and then discharge excess water.
5. Demonstrate the effective diagnosis and correct response to simulated rebreather problems.
6. Air-sharing scenarios to include breath-hold management for air-sharing for at least 200 feet/60 meters.

7. Demonstrate effective valve-management by switching regulators, shutting down a valve and returning the valve to the open position.
8. Demonstrate a clean and efficient removal of stage and/or decompression bottles while hovering horizontal.
9. Demonstrate the ability to recognize the presence of elevated CO2 levels.
10. Demonstrate the ability to comfortably switch gases using the gas addition manifold while maintaining good trim and neutral buoyancy.
11. Demonstrate proficiency in safe diving procedures, including assembly, vacuum and pressure test, pre-dive preparations, pre dive vacuum test, flow check, in-water activity and post dive assessment and break down.
12. Comfortably swim for at least 50' without a mask while diving breathing on Closed Circuit.
13. Demonstrate the ability to safely switch between Closed Circuit and Open Circuit I.E. Flow Check.
14. Efficiently and comfortably demonstrate how to donate air to an out of air diver in multiple air sharing episodes from Closed Circuit with one or more experiences to include a distance of at least 30’/9m.
15. Be able to comfortably demonstrate use, manipulation and failures of the gas addition system.
16. Demonstrate awareness of the working of a team member’s Rebreather and a concern for safety, responding quickly to visual cues and diver partner needs if the RB should fail.
17. Demonstrate proficiency with dive rescue techniques, including effective management of the following situations: assisting a panic stricken diver, a convulsing diver and an unconscious diver. Demonstrate reasonable proficiency with use of the Rebreather during ascents, descents and diving.

Equipment Requirements

1. All equipment noted in paragraph 3.0
2. Two 40cft/1120 decompression bottles

3-570 pSCR 3 Rebreather Diver

Similar to pSCR 2 but to a max depth of 250’/75m. Details coming soon.

3-580 pSCR Gold Rebreather Diver

Removes all depth, gas, and bottle restrictions.

Prerequisites:

1. UTD pSCR 2 (no equivalents)
2. 20 experience dives in Trimix 2/pSCR 2 range
3. In-water session(s) to cover
   - 120’/36m gas switching protocols
   - 70'/21m gas switch protocols
   - 20'/6m gas switch protocols
   - Multiple O2 Cycles

Student Skills Demonstration

1. Demonstrate ability to safely deploy a decompression bottle while maintaining buoyancy within a 3'/1m +- of target depth and within 1 minute.
2. Demonstrate ability to safely stow a decompression bottle while maintaining buoyancy within +- 3'/1m of target depth and within 1 minute.
3. Demonstrate ability to pass and receivce a deco bottle while maintaining buoyancy within +- 3'/1m of target depth and within 1 minute.

3-590 The UTD Expedition Diver

The UTD Expedition Diver is a recognition offered to a UTD Member who has reached the highest level certification issued by UTD. The Expedition Diver Card is earned by a diver who has demonstrated the ability to explore deeply into the world's oceans, wrecks, and caves and has made a life-long commitment to the training and discipline needed for these extreme dives.

A candidate for the UTD Expedition card must complete the following UTD courses (equivalents are not permitted unless specifically noted):

1. UTD Tech 2 or equivalent
2. UTD Trimix 2
3. UTD Wreck 2 or UTD Cave 2
4. UTD Scooter 2
5. UTD mCCR 2 or pSCR 2
6. Rescue and Emergency Procedures or equivalent
7. Technical Gas Blender and

Once these classes have been completed the candidate may submit an application to the UTD Board of Advisors for Expedition status. Required documents include:

1. Copies of relevant certification cards
2. Proof of current UTD Membership
3. Letters from two UTD Instructors recommending Expedition Diver status
4. A letter from the UTD Training Director recommending Expedition Diver status
5. A letter to the UTD Board or Advisors requesting Expedition Diver status
6. A complete bio and resume

The UTD Board of Advisors will grant Expedition Diver status on a case by case basis. If status is denied, the candidate may reapply after a period of one year from the date of the denial.

3-6 Leadership Classes

3-601 UTD Dive Master

Purpose

UTD's Dive Master course is a leadership certification program designed to train UTD divers to organize and lead diving activities and assist on UTD classes. A UTD Dive Master may work as a Dive Master and/or an assistant to a UTD Instructor on any level class that the DM is rated for. A Dive Master may request a restriction to DM at a lower level than his/her highest level of training. All UTD Instructors have dive master status.

The core of the UTD Dive Master program is leadership. The DM Candidate will become comfortable coordinating classes and events, assisting in academic, land drills, and in-water training.

During the course of the UTD Dive Master training, the DM candidate will be performing skills to a demonstration level similar to that of an instructor. *It's important to note that the goal of the DM program is not to teach a DM candidate to dive, but to teach a DM candidate to teach and lead.*

Two paths exist to obtain the UTD Dive Master certification. The first option is call "Internship" and is designed to expose the student to different UTD classes and teaching scenarios by observing and participating in UTD classes taught by a UTD Instructor. The second option is by completing the UTD Instructor Development Course.

NOTE: At the discretion of a UTD Instructor Trainer, UTD Dive Master certification may be attained by fully participating in a UTD Instructor Development Course. Successfully completing a UTD IDC relieves the Dive Master candidate of the specific dive requirements of this section. All Prerequisites still apply.

Prerequisites

Must meet UTD General Course Prerequisites as outlined in Section 1.6.

1. Must be a minimum age of 19 years.
2. Medical exam and approval for diving by a licensed physician.
3. Must be certified, at a minimum, as a UTD Rec 2 diver or equivalent.
4. Must be certified as a UTD Rescue Diver or equivalent.
5. Must be certified in First Aid/CPR/AED/O2 from a nationally recognized training agency.
6. Must have a minimum of 100 dives beyond open water qualification.
7. All participants must be able to swim at least 300 yards in 14 min or must be able to swim at least 600 yards in 18 minutes with mask & fins.
8. All participants must be able to swim a distance of at least 50' (15m) on a breath hold or demonstrate an air share swim where the OOA diver swims at least 50' (15m) to the donating diver.
9. All participants must surface-tow a diver in full equipment, in the environment they will be diving, for 10 minutes.
10. All participants must demonstrate a rescue of a diver simulating oxygen toxicity.

Course Limits

1. General Training Limits as outlined in Section 1.4
2. Student to Instructor ratio is not to exceed 4:1 during land drill, surface exercises and Experience Dives but 4:1 during any direct in-water critical skills training.
3. Maximum depth only limited by the certification level of the DM candidate.
4. Standard gases mixes are to used for every dive.

Course Content

The UTD Dive Master course is normally conducted over a minimum of 6 days, and cumulatively involves a minimum of 48 hours of instruction, designed to provide a working knowledge of UTD's leadership techniques and protocols.

Minimum course requirements include twenty-four (24) hours of academics and eighteen (18) dives, four (4) of which will be critical skill dives and the balance will be experience dives.

Initial dives will be conducted in shallow water to test diver ability and to fill in any deficits in skill levels. The experience dives are to be dives at any depth the DM candidate is rated for, with or without stage decompression. During the experience dives, the DM candidate is expected to coordinate, lead, and assist under supervision of the instructor.

Online Classroom Courses & Text

1. Online Classroom Materials – DiveMaster
2. Gas Planning Worksheet
3. Essentials, Essentials of Tech, and Technical DVD's are recommended

Academic Topics

1. Physics
2. UTD/DIR/Hogarthian Principles
3. Teaching Fundamentals and Presentation Principles
4. Developing Lectures.
5. Dive Master duties and legal responsibilities
6. Pressure and Gas laws review
7. Equations relevant for the planning, mixing, and use of enriched air
8. Physiology – Hypoxia, Hyperoxia
9. Oxygen toxicity – CNS, Pulmonary toxicity
10. Tracking multi-level, multi-dive, and multi-day exposures
11. Inert gas narcosis
12. Carbon dioxide toxicity
13. Introduction to Normoxic trimix
14. Disadvantages of deep air
15. Double tanks, Decompression and/or Stage bottle
16. BC/harness
17. Regulators, depth gauges, pressure gauges, and hose routing
18. Manifolds
19. Reels and line protocols
20. Lift bag/surface marker buoys and spools
21. Bottom timers and time keeping devices
22. Exposure suit appropriate for the environment
23. Decompression illness

24. Accelerated and “on the fly” decompression
25. Decompression practices on back-gas and 100% oxygen
26. Generic tables, computers, and custom tables
27. Dive planning
28. Team planning
29. Gas matching
30. Emergency procedures
31. Analyzing and labeling gas supplies
32. Dry runs and in-water coursework
33. Practice Presentations and Equipment Lectures

Land Drills & Topics

1. Dive team order and protocols
2. Shore and boat diving protocols
3. Emergency planning and procedures
4. Decompression emergencies
5. Search and rescue
6. Accident avoidance, response, and management
7. Pre dive drills
8. Use of safety spools, reels, lift bags, and rescue floatation equipment
9. Basic navigation skills
10. Night diving skills

Required Dive Skills & Drills

1. All skills and drills as outlined in the general diving skills as outlined in Section 1.5
2. Lift bag deployment
3. Surface marker buoy deployment
4. Buoyancy and trim
5. Able to comfortably demonstrate at least two propulsion techniques appropriate for delicate and/or silty environments
6. Use of touch contact for limited and simulated zero visibility situations
7. Reel and guideline use
8. Equipment familiarization
9. Air-sharing scenarios to include a horizontal swim for at least 200 feet/60 meters
10. Air-sharing ascent with or without decompression simulated decompression obligations.
11. Buddy breathing (one second stage regulator shared by two people) for at least 200 feet//60 meters.
12. Bring a maskless diver to the surface.
13. Be brought to the surface without a mask.
14. Demonstrate effective valve-management by switching regulators, shutting down a valve in less than 15 seconds and returning the valve to the open position again in less than 15 seconds and/or completing a complete valve-drill in 2 minutes.
15. Scuba gear remove and replace at surface.
16. Loss of ditchable weights (if appropriate).
17. Perform at least two (2) pre-dive briefings under supervision of a UTD Instructor.
18. Guide a group of certified divers on at least two day dives (at least one must be a boat dive.
19. Guide a group of certified divers on at least one night dive.
20. Assist in a minimum of three (3) in water class sessions with a UTD instructor.
21. Shoot video in a minimum of two (2) in water class sessions with a UTD instructor.
22. Bring an unconsciousness diver to the surface, tow while performing rescue breaths, extricate the diver from the water, begin emergency response.

23. Bring a toxing diver to the surface.
24. Assist a UTD Instructor on one complete UTD class.

Upon Certification

Divemasters may:

1. Assist with any UTD class up to Dive Master's highest level of certification
2. Guide certified divers on dives up to the Dive Master's highest level of certification

Divemasters may teach the following classes:

1. Annual Dive Review to certified divers
2. Extreme Scuba Makeover (ESM) to certified divers

In order for a Dive Master to be able to teach the three above classes, the certifying instructor must note the classes able to be taught on the student evaluation form in the comments section.

Renewal of Membership

All UTD Divemasters must be an active status UTD Dive Master Member in good standing with the agency and renew their UTD Dive Master membership annually.

3-605 IDC Prep

Purpose

The “IDC Prep” class is workshop-based class to prepare UTD Instructor Candidates for the in-water portion of an Instructor Development Course. IDC Prep is not a pass-fail class, but is specifically designed for instructor candidates who have not taken a UTD class, or any candidate who wants to be sure their skills are in order prior to an IDC. In IDC Prep, instructor candidates will work on personal and team skills to demonstration quality.

IDC Prep generally takes place in 20-30’ / 6-10m of open water. It is a personal skills class that prepares you to demonstrate all the foundational UTD skills (as noted below). All skills are done to demonstration quality in preparation to teach a UTD class.

IDC Prep may be taught at a recreational or technical level and can be taught by any UTD instructor to their level.

Prerequisites

1. Must meet UTD General Course Prerequisites as outlined in Section 1.6.
2. Must be a minimum age of 19 years of age.
3. UTD Rescue and Emergency Procedures or equivalent.
4. UTD Rec 2 (Nitrox) or equivalent.
5. Minimum of 100 dives beyond open water certification, 75 of which must be non-training dives.
6. All participants must be able to swim at least 300 yards/285 meters in 12 minutes.
7. All participants must be able to swim a distance of at least 50'/15m on a breath hold.
8. All participants must demonstrate the rescue of a diver simulating oxygen toxicity.

Course Limits

1. General training limits as outlined in Section 1.4
2. Student to Instructor ratio is not to exceed 6:1 during any in-water training and will be adjust down according to conditions and visibility
3. Maximum depth 60 feet/18 meters
4. Standard gas is Air or Nitrox 32
5. Must stay within no-decompression limits
6. No overhead environment diving

Course Content

IDC Prep is normally conducted over 2 to 3-day period combining lecture, in-water sessions and video debriefings with a minimum of 20 hours of instruction. The course focuses on the foundational skills required by all UTD instructor candidates.

Course requirements include a minimum of eight hours of academics/dry runs and four in water sessions.

Online Classroom Courses & Text

1. Online Classroom Materials – IDC Prep
2. Essentials of Tech Worksheet
3. Essentials of Tech DVD is recommended

Academic Topics

1. UTD organization
2. Teaching Methodology
3. Buoyancy Control and Trim
4. Proper Weighting
5. Streamlining and Equipment Configuration
6. Propulsion Techniques
7. Air Sharing and Valve Drill procedures
8. Situational Awareness
9. Communication
10. Breathing Gas Overview
11. Dive Planning and Gas Management

Land Drills & Topics

1. Propulsion techniques
2. Basic-6
3. S-Drills
4. Valve Drills
5. Pre-Dive Drills
6. Use of safety spools and surface marker buoy
7. Deco bottle use (Deploy and Stow)
8. Basic navigation skills

In Water Skills & Drills

Learn how to perform:

1. Demonstration quality buoyancy and trim
2. Demonstration quality propulsion – Frog, Mod Frog, Mod Flutter, Back, Helicopter
3. Demonstration quality Basic-6
4. Demonstration quality S-Drills
5. Demonstration quality Valve Drills
6. Demonstration quality SMB Deployment
7. Demonstration quality Deco Bottle Deploy/Stow
8. Demonstration quality Toxing Diver rescue.

Upon Completion

Students may enroll in the Instructor Development Course.

3-7 UTD Scuba Coaching

Purpose

UTD Scuba Coaching is an individual dive training program that focuses on one-on-one training. Although not a certification program, certification can be achieved for participants.

The Coaches

UTD Scuba Coaching can be performed by any properly certified and insured scuba instructor or divemaster.

- Instructors who are UTD Scuba Coaches may coach certified and non-certified divers. Coaching clients/athletes may train without certification as a goal or may be placed on a certification track as appropriate to the needs of the client. Instructors who are coaching must stay within the limits of their instructor certification.
- Dive masters who are UTD Scuba Coaches may only coach certified divers and may not offer certification. Dive masters who are coaching must stay within their own level of certification and the level of certification of the client.

The Clients

Anyone may enter the UTD Scuba Coaching program as a client (also referred to as an athlete or student). The UTD Coaching program is open to any certified on non-certified diver regardless of prior training or agency certification.

Client Program Entry Requirements

Startup paperwork, including

- UTD Registration, Waiver, and Medical History Form
- Coaching Start Form
- Subscription to monthly UTD Coaching (includes coaching and online course package).
- Student feedback forms are required, at a minimum, every six months.

Program Guidelines

- Coaches provide their individual clients with weekly or monthly programs.
- Clients provide feedback about their daily “workouts” to their coaches.
- Coaches respond to the feedback.
- “Workouts” may include academic sessions, research sessions, equipment maintenance, dry runs, confined water dives, open water dives, video review sessions, training camps, etc. “Workouts” may be conducted with or without the coach in attendance.
- Non-water sessions may be conducted in person or via web conference.
- If a client completes all requirements for a particular certification, the coach (if an instructor, not a dive master) may certify that client. UTD certification fees apply.
- All coaching and training must adhere to UTD Standards and Procedures. This includes appropriate standard gases, minimum equipment requirements, depth, time, and deco limits, etc.

4.0 UTD Instructor Standards and Procedures

4.1 Active Status UTD Instructor

Only active status UTD Instructors may teach UTD certification classes.

4.1.1 Maintaining Active Status

To maintain status as an active UTD instructor, instructors must:

1. Be a current UTD instructor subscribing member and maintain a current mailing address, email, and phone number with UTD HQ by means of their instructor account on www.utdscubadiving.com
2. Stay current with versions of all relevant UTD instructor manuals and current UTD Standards and Procedures.
3. Conduct 25 non-training dives in the previous two years or complete a UTD instructor requalification course.
4. Complete at least one of the following training obligations per year:
    a. Conduct and act as the lead instructor in one UTD course.
    b. Attend, serve on staff, or lecture at one UTD IDC or advanced instructor course.
    c. Serve as an assistant, audit, or participate in three complete UTD diving courses.
    d. Complete a UTD instructor requalification course.
5. Instructors are required to maintain professional liability insurance if available in their country of residence. Minimum coverage: $1,000,000. This liability insurance must name UTD as additionally insured. If an instructor leaves UTD, this insurance must remain in place for a period of five years after the departure date or be replaced by a legacy insurance policy.
6. Maintain a good state of mental and physical fitness.
7. Meet all financial obligations to UTD Headquarters.
8. Must be qualified as a First Aid/CPR/AED/O2 provider from a national agency. Recommend renewal within past two years.

4.1.2 Instructor Requalification

Each UTD instructor must re-qualify every three years or when required by Standards and Procedures. An instructor can be re-qualified six months before or six months after the expiration of their qualification period by participating in either a UTD IDC or co-teaching with a UTD Instructor with internship ability, or completing an academic review with a UTD HQ instructor trainer. If the instructor is re-qualifying after three years but within the “six-month-after” period, that instructor may not teach a UTD course until re-qualified.

At the discretion of the IT, the re-qualification process includes an academic review, an evaluation of in-water skills, and/or exposure to new training content and systems. UTD instructors who have to re-qualify following an official complaint being filed against them, or after any suspension, must apply for requalification directly to the UTD Quality Assurance Board. In that case, requalification requirements are at the discretion of the Quality Assurance Board. UTD Instructors must pay all class fees associated with requalification. Instructors whose membership has expired and who do not wish to renew as instructors will become inactive status instructors.

It is the sole responsibility of the re-qualifying instructor to provide written proof to UTD Headquarters that they have completed the requalification requirements. The written proof must be signed by the instructor trainer or Internship Instructor conducting the requalification.

4.1.3 Active Status UTD Instructor with Internship Ability

1. Must be an active instructor
2. Must have been a UTD instructor for 1 year or more or have 3 years instructing experience.
3. Must be appointed by UTD HQ
4. Must teach a minimum of five classes or ten (10) students per year
5. Must attend and serve on staff at one UTD IDC every three years

4.2 Instructor Candidate Training Procedures

4.2.1 General Description

UTD's instructor training curriculum is designed around a common training and diving platform. This means that fundamental training concepts and core skills learned in different UTD classes will mirror each other even though they may have been instilled in classes that are geared toward different environments. Therefore, all UTD instructors must first be accepted into and then satisfactorily complete the Foundational Instructor Development Course (IDC). The Foundational IDC is specifically designed to develop the core UTD philosophies, teaching principles and in-water skills. Personal diving skills may be evaluated by the UTD Training Advisory Board prior to acceptance into an IDC.

On completion of a Foundational UTD IDC, video of instructor candidate's in-water skills, lectures and dry runs, along with the IT's evaluations, will be presented to the UTD Training Advisory Board. The Board will make the final decision as to the instructor candidate's path to becoming a UTD Instructor. In no case will an instructor candidate be approved as a UTD Foundational Instructor without approval of the Training Advisory Board.

UTD Instructor candidates may be approved to teach to a maximum of one level lower than the highest level at which they are dive certified with the exception of Recreational 2.

Every Foundational IDC candidate must be able to perform or demonstrate:

1. At least 2 prepared classroom presentations
2. At least 1 impromptu classroom presentation
3. At least 3 simulated training dives
4. At least 1 simulated in water emergency / rescue scenario
5. Any diving skill at a demonstration level when asked by the IDC staff
6. A safe, effective, and personable approach to teaching
7. An understanding of UTD standards and procedures
8. A respect for conservation and the environment
9. Proper in-water positioning to provide appropriate care for, and control of, students
10. An awareness of each student's ability level
11. Full capacity with all topics contained within UTD diver training
12. Local laws and regulations affecting scuba diving activities

4.2.2 Equipment Requirements

All UTD classes teach a consistent gear configuration. Each instructor candidate must be completely familiar and comfortable with the gear configurations appropriate to the classes they will be teaching, i.e. back mount singles, back mount doubles, side mount singles, side mount doubles, stages, deco bottles, etc.

4.2.3 IDC Prerequisites

1. Personal diving skills submitted to and approved by UTD Training Advisory Board (optional).
2. Must meet UTD General Course Prerequisites as outlined in Section 1.6.
3. Must be a minimum age of 19 years of age.
4. Must be able to swim at least 425 yards/ 400 meters in less than 14 minutes without stopping.
5. Must be able to swim a distance of at least 70 feet/21 meters on a breath hold.
6. Dive Master certification with a recognized certification agency.
7. Rescue class, or equivalent
8. First Aid, CPR, and AED/O2 within past two years
9. UTD Rec 2 and UTD Essentials of Rec or equivalent
10. Smoking is not permitted during any training activity.

4.2.4 Foundational Modules

The UTD Instructor Development/Crossover Course (IDC/Crossover) is a modular program. The foundational modules are:

- Registration
- Class Preparation
- Academic
- In-Water
- Evaluation

All five modules are mandatory. The first three, Registration, Class Preparation, and Academic are home study modules and are guided by UTD Headquarters Training Staff. These first three modules must be completed prior to attending the in-water module. The in-water module may be taught by any UTD Certified Instructor Trainer. The final module, evaluation, is completed by the UTD Training Advisory Board.

On completion of the Foundational in-water module, the instructor trainer has two options:

1. Submit the candidate to the Training Advisory Board for evaluation.
2. Not submit the candidate to the Training Advisory Board, but recommend a path to completion. This may include, but is not limited to, internships, participation in additional IDC's, etc.

If the candidate is submitted for evaluation to the Training Advisory Board, the Board has four options for the candidate:

1. Certified as a UTD Instructor
2. Certified as an instructor but must co-teach prior to final approval
3. Not certified and must submit new evaluation video to the Board
4. Not certified and must intern then submit new evaluation video to the Board

Candidates who are certified by the Board may be asked to teach a progression of classes i.e. "must teach two Essentials of Rec prior to teaching Essentials of Tech," or "must teach Rec 2 prior to teaching Rec 3," etc.

4.2.5 Category Upgrades

Category upgrades are optional and may be attended only after completion of the Foundational in-water module. Category upgrades are taught by any UTD instructor trainer certified to teach the category. Category upgrades include:

- Side mount instructor
- Back mount instructor
- Technical instructor
- Rebreather instructor
- Overhead instructor (Cave or Wreck)

4.2.6 Internships and Co-Teaching

Candidates who are asked to intern must participate in a complete UTD class with a UTD instructor with internship ability. Those instructors with internship ability include all instructor trainers and other instructors appointed by UTD HQ.

Candidates who are asked to co-teach must participate in a complete UTD class with any UTD instructor.

4.2.7 Evaluation Modules

Instructor Candidates will be evaluated by the UTD Training Advisory Board. Following the in-water module, the instructor trainer will provide the Board with evaluation video of the candidate performing a lecture, a dry run, and an in-water demonstration, along with the candidate's evaluation forms. The candidate will be informed that the evaluation process takes up to 10 days. During that time, the Board will review the videos and the forms, discuss the candidate, and then make a decision as noted above. The candidate will be informed of the outcome by his/her instructor trainer.

4.3 Foundational Instructor Development Course

4.3.1 Program Limits

General training limits as outlined in Section 1.4.

4.3.2 Registration Module

- Interview with UTD training department
- Purchase IDC materials which include student and instructor materials
- Submit registration, waiver, medical history, nondisclosure agreement

4.3.2 Online Classroom and Preparation Module

- Read Standards and Procedures
- Read and study the UTD Playbook
- Review online program for each class you expect to teach
- Review the test for each class you expect to teach

4.3.3 Academic Module

- UTD ethos and 10 covenants
- UTD teaching protocols
- UTD Standards and Procedures

- UTD Playbook
- UTD classroom presentations
- UTD instructor development video presentations
- UTD Instructor Operations Manual

4.3.4 In Person Training Modules

Foundational Module – 4 to 5 days
Required Skills
- Understanding of Ratio Deco
- Classroom presentations (assigned topics)
- Dry run presentations (assigned topics)
- Impromptu presentations
- Confined water: Recreational through Essentials of Tech skills
- Confined water: Critical skills, instructor positioning, team re-positioning
- Confined water: Failures, simulations, critical skills, rescue skills, specialties
- Open water: all skills
- Surface and video debriefs

Side Mount Upgrade – 1 to 2 Days
In water skills and teaching techniques for side mount diving
- Classroom presentations
- Dry run presentations
- In-water presentations
- Video debrief

Back Mount Upgrade – 1 to 2 Days
In water skills and teaching techniques for back mount diving
- Classroom presentations
- Dry run presentations
- In-water presentations
- Video debrief

Technical Upgrade – 4 to 5 Days
In water skills and teaching techniques for UTD technical classes
- Classroom presentations
- Dry run presentations
- In-water presentations
- Video debrief

Rebreather Upgrade – 4 to 5 Days
In water skills and teaching techniques for CCR, mCCR and/or pSCR
- Classroom presentations
- Dry run presentations
- In-water presentations
- Video debrief

Overhead Upgrade – 4 to 5 Days
In water skills and teaching techniques for UTD Overhead Protocols class, and/or cave and wreck classes
- Classroom presentations
- Dry run presentations
- In-water presentations

- Video debrief

UTD Specialties
UTD specialities, such as Nitrox, Rescue, Dry Suit, Scooter, and others as noted in Section 3 of this document may be included with a Foundational IDC as appropriate and at the discretion of the instructor trainer.

UTD Gas Blender and Cylinder and Valve Technician –

Active status UTD Instructors can cross over to Gas Blender Instructor by:
- Completing the UTD online Gas Blender class, AND
- Providing proof of current Gas Blending certification from a nationally recognized agency, or
- Providing proof of a minimum of one year professional experience blending nitrox and trimix (ie. in a dive shop or similar environment), or
- Providing proof, via a written statement, of at least two years blending nitrox and trimix in a non-professional environment, or
- Completing the UTD Gas Blender IDC.

Active status UTD Instructors can cross over to Cylinder and Valve Technician Instructor by:
- Completing the UTD online Cylinder and Valve Technician class, AND
- Providing proof of current Cylinder and Valve inspection certification from a nationally recognized agency, or
- Providing proof of a minimum of one year professional experience performing visual inspections and valve service (ie in a dive shop or similar environment), or Completing the UTD Cylinder and Valve Technician IDC.

4.4 Instructor Level Classes

4-100 Academic Only Instructor
4-101 Dive Shop Services
4-102 Instructor Requalification
4-200 Recreational Instructor
4-220 OW/Foundational Instructor
4-230 Side mount Instructor
4-231 Back mount Instructor
4-300 Technical Instructor
4-310 Techreational Instructor
4-311 Technical 1 Instructor
4-312 Technical 2 Instructor
4-313 Technical 3 Instructor
4-314 Technical Gold Instructor
4-400 Overhead Protocols Instructor
4-410 Cave Instructor
4-411 Cave 1 Instructor
4-412 Cave 2 Instructor
4-413 Cave 3 Instructor
4-414 Cave Gold Instructor
4-420 Wreck Instructor
4-421 Wreck 1 Instructor
4-422 Wreck 2 Instructor
4-423 Wreck 3 Instructor
4-424 Wreck Gold Instructor
4-500 Rebreather Instructor
4-510 pSCR Instructor
4-511 pSCR 1 Instructor
4-512 pSCR 2 Instructor
4-513 pSCR 3 Instructor
4-514 pSCR Gold Instructor
4-520 mCCR Instructor
4-521 mCCR 1 Instructor
4-522 mCCR 2 Instructor
4-523 mCCR 3 Instructor
4-524 mCCR Gold Instructor
4-600 UTD Gold Instructor
4-700 Instructor Trainer Classes
4-701 IT Prep
4-710 Foundational IT
4-720 Tech IT
4-740 Cave IT
4-750 Wreck IT
4-760 Side mount IT
4-770 pSCR IT
4-780 mCCR IT

4.4.1 Instructor Categories and Prerequisites

General Instructor Prerequisites to teach UTD Specialties

In order to teach:	You must be at least a:
Scooter	Foundational Instructor plus UTD scooter diver
Ratio Deco	Technical Instructor
Essentials of Tech	Foundational Instructor plus UTD technical diver

Specific Prerequisites for Overhead Protocols Instructors
UTD technical 1 instructor or higher, and UTD Wreck Penetration or Cave Diver or equivalent, and participate in or intern a minimum of one UTD Overhead Protocols class with an overhead instructor with internship ability.

Specific Prerequisites and Procedures for UTD Academic Instructors
UTD academic instructor candidates must participate in an IDC specifically designed by the UTD training department. This IDC will address the classes the candidate intends to teach. There are no **Prerequisites** to enter a UTD academic-only IDC.

Equipment Configurations
Every instructor must show competence in each equipment configuration – back mount, side mount, rebreather, stage, etc.

4-100 Academic Instructor

Purpose

UTD Academic Instructors may teach the academic programs of any classes they are approved to teach. This may include recreational, technical, overhead, rebreather, and specialty classes. In addition, UTD Academic Instructors may be approved to teach complete non-water classes such as Technical Gas Blender and Cylinder and Valve Technician. All Academic Instructors must participate and successfully complete an IDC specifically for the classes to be taught.

4-101 Instructor Requalificaiton

Purpose
To refresh and/or orient instructors who have not maintained active status with UTD to the changes in the agency since they were last in active status.

Prerequisites
- UTD Instructor

4-200 Recreational Instructor

4-220 Open Water/Foundational Instructor

Purpose

The UTD Recreational Instructor serves as the general instructional level for the diving community. They introduce students to the underwater world and continue to grow students' skills and abilities until environmental specific training is required. Instructors will promote Ocean Friendly practices in every class.

Prerequisites

The Prerequisites to become a Foundational Instructor are:

1. Dive Master/Assistant Instructor with any recognized training agency
2. Rescue and First Aid certifications with any recognized training agency
3. Proof of 200 non training dives
4. UTD Essentials of Rec or equivalent
5. UTD Rec 2 or equivalent

Qualified to Teach

All Foundational Instructors are able to teach all UTD recreational classes as listed in Section 3 of this document unless specifically restricted by the certifying Instructor Trainer and/or UTD Training Advisory Board.

General Restrictions:

1. With the exception of Recreational 2, the instructor must be certified one level higher than the classes they are certified to teach. For example, if a Foundational Instructor wishes to teach Recreational 3 he/she must be certified to a level of at least UTD Techreational or equivalent.

4-230 Side Mount Instructor

Purpose

This IDC is to prepare UTD Instructors for teaching students how to dive the Z-sidemount system.

Prerequisites

In order to be a UTD side mount Instructor, the candidate must be a UTD Foundational Instructor.

Qualified to Teach

UTD Instructors can teach at their existing level in side mount provided they have successfully completed the UTD Side Mount IDC and have a minimum of 25 post-training side mount dives in the UTD Z-System side mount configuration at the level they wish to teach.

4-231 Back Mount Instructor

Purpose

This IDC is to prepare UTD Instructors for teaching students how to dive traditional DIR back mount systems.

Prerequisites

In order to be a UTD Back Mount Instructor, the candidate must be a UTD Foundational Instructor.

Qualified to Teach

UTD Instructors can teach at their existing level in back mount provided they have successfully completed the UTD Back Mount IDC and have a minimum of 25 post-training back mount dives in the UTD/DIR back mount configuration at the level they wish to teach

4-300 Technical Instructor Level

The UTD Technical Instructor program is designed to train UTD Foundational Instructors who are also technical divers to teach the demanding UTD technical program. The series of courses will shift focus from not only teaching the personal skills required of technical diving but how properly execute the critical skills dives and the importance of the video debriefs to reinforce good student behavior.

4-310 Techreational Instructor

Purpose

To train UTD Foundational Instructors who are also technical divers to teach the UTD Techreational program.

Prerequisites

The Prerequisites to become a Techreational Instructor are:

1. UTD Foundational Instructor
2. Two years of teaching experiences
3. Certified as a UTD Technical 1 diver or equivalent
4. Proof of 500 non training dives, 50 dives at depths below 130ft/39m with staged decompression utilizing a single decompression bottle.

Qualified to Teach

- 3-300 UTD Teachreational

4-311 Technical 1 Instructor

Purpose

To train UTD Foundational Instructors who are also technical divers how to teach the UTD Technical 1 program.

Prerequisites

The **Prerequisites** to become a Technical 1 Instructor are:

1. UTD Foundational Instructor
2. Two years of teaching experiences
3. Certified as a UTD Technical 2 diver or equivalent
4. Proof of 500 non training dives, 50 dives at depths below 130ft/39m with staged decompression utilizing at least a single decompression bottle.

Qualified to Teach

- 3-300 UTD Teachreational
- 3-310 UTD Technical 1
- 3-400 Overhead Protocols provided the Instructor Candidate is certified as UTD Cave 2 or Wreck 1.

4-312 Technical 2 Instructor

Purpose

This IDC is designed to train UTD Technical 1 Instructors how to teach the UTD Technical 2 program.

Prerequisites

The Prerequisites to become a Technical 2 Instructor are:

1. UTD Technical 1 Instructor
2. Three years of teaching experiences
3. Certified as a UTD Technical 3 diver or equivalent
4. Proof of 750 non training dives, 50 dives below 200ft/60m requiring staged decompression with the use of two decompression bottles.

Qualified to Teach

- 3-300 UTD Teachreational
- 3-310 UTD Technical 1
- 3-320 UTD Technical 2
- 3-400 Overhead Protocols provided the Instructor Candidate is certified as UTD Cave 2 or Wreck 1.

4-313 Technical 3 Instructor

Purpose

This IDC is designed to train UTD Technical 2 Instructors how to teach the UTD Technical 3 program.

Prerequisites

The Prerequisites to become a Technical 3 Instructor are:

1. UTD Technical 2 Instructor
2. Five years of teaching experiences
3. Certified as a UTD Technical Gold diver or equivalent
4. Proof of 750 non training dives, 50 dives below 200ft/60m requiring staged decompression with the use of two decompression bottles.

Qualified to Teach

- 3-300 UTD Techreational
- 3-310 UTD Technical 1
- 3-320 UTD Technical 2
- 3-330 UTD Technical 3
- 3-200 Ratio Deco
- 3-400 Overhead Protocols provided the Instructor Candidate is certified as UTD Cave 2 or Wreck 1.

4-314 Technical Gold Instructor

Purpose

This IDC is designed to train UTD Technical 3 Instructors how to teach the UTD Technical Gold program that removes all bottle and depth restrictions on the diver.

Prerequisites

The **Prerequisites** to become a Technical Gold Instructor are:

1. UTD Technical 3 Instructor
2. Certified as a UTD Technical Gold diver or equivalent
3. Must have taught at least one full UTD Technical 3 course

Qualified to Teach

- All “Technical classes” as listed in section 3
- 3-400 Overhead Protocols provided the Instructor Candidate is certified as UTD Cave 2 or Wreck 1.

4-400 Overhead Protocols Instructor

Purpose

To train UTD Foundational Instructors who are also technical and overhead divers to teach UTD Overhead Protocols.

Prerequisites

The **Prerequisites** to become an Overhead Protocols Instructor are:

1. UTD Technical or UTD Cave Instructor
2. Two (2) years of teaching experiences
3. Certified as a UTD Cave 2 diver or UTD Wreck 1 diver or equivalent
4. Certified as a UTD Technical 1 diver or equivalent

Qualified to Teach

- 3-400 UTD Overhead Protocols

4-410 Cave Instructor

The UTD Cave Instructor program is designed to train UTD Instructors who are also cave divers to teach the UTD cave program. The series of courses will shift focus from not only teaching the personal skills required of cave diving but how properly execute the critical skills dives and the importance of the video debriefs to reinforce good student behavior in the cave environment.

4-411 Cave 1 Instructor

Purpose

This IDC is designed to train UTD Foundational Instructors who are cave divers to teach the UTD Cave 1 program.

Prerequisites

The Prerequisites to become a Cave 1 Instructor are:

1. UTD Foundational Instructor
2. Three years of teaching experiences
3. Certified as a UTD Cave 2 diver or equivalent
4. Proof of 1000 non training dives, 125 non-training cave dives.

Qualified to Teach

- 3-400 Overhead Protocols
- 3-410 Cave 1

4-412 Cave 2 Instructor

Purpose

This IDC is designed to train UTD Cave 1 Instructors to teach the UTD Cave 2 program.

Prerequisites

The Prerequisites to become a Cave 2 Instructor are:

1. UTD Cave 1 Instructor
2. Three years of teaching experiences
3. Certified as a UTD Cave 3 diver or equivalent
4. Proof of 1000 non training dives, 125 non-training cave dives.

Qualified to Teach

- 3-400 Overhead Protocols
- 3-410 Cave 1
- 3-415 Cave 2

4-413 Cave 3 Instructor

Purpose
This IDC is designed to train UTD Cave 2 Instructors on how to teach the UTD Cave 3 program.

Prerequisites
The **Prerequisites** to become a Cave 3 Instructor are:
1. UTD Cave 2 Instructor
2. UTD Technical 2 Instructor
3. Three years of teaching experiences
4. Certified as a UTD Cave Gold Diver or equivalent
5. Proof of 1000 non training dives, 125 non-training cave dives.

Qualified to Teach

- 3-400 Overhead Protocols
- 3-410 Cave 1
- 3-415 Cave 2
- 3-420 Cave 3

4-414 Cave Gold Instructor

Purpose

This IDC is designed to train UTD Cave 3 Instructors to teach UTD Cave Gold, the final cave course that lifts all restrictions on the diver in terms of depth and penetration.

Prerequisites

The **Prerequisites** to become a Cave Gold Instructor are:
1. UTD Cave 3 Instructor
2. UTD Technical 3 Instructor
3. Three years of teaching experiences
4. Certified as a UTD Cave Gold diver or equivalent
5. Proof of 1000 non training dives, 200 non-training cave dives.

Qualified to Teach

- All “Cave Classes” as listed in section 3

4-415 Cave Survey
TBA

4-416 Cave Scooter
TBA

4-417 Cave Rebreather
TBA

4-420 Wreck Instructor

The UTD Wreck Instructor program is designed to train UTD Instructors who are also wreck divers how to teach the UTD wreck program. The series of courses will shift focus from not only teaching the personal skills required of diving but how properly execute the critical skills dives and the importance of the video debriefs to reinforce good student behavior in the wreck environment.

4-421 Wreck 1 Instructor

Purpose

This IDC is designed to train UTD Foundational Instructors who are wreck divers to teach the UTD Wreck 1 program.

Prerequisites

The **Prerequisites** to become a Wreck 1 Instructor are:

1. UTD Foundational Instructor
2. Three years of teaching experiences
3. Certified as a UTD Wreck 2 diver or equivalent
4. Proof of 1000 non training dives, 125 non-training wreck penetration dives.

Qualified to Teach

- 3-400 Overhead Protocols
- 3-450 Wreck 1

4-422 Wreck 2 Instructor

Purpose

This IDC is designed to train UTD Wreck 1 Instructors how to teach the UTD Wreck 2 program.

Prerequisites

The **Prerequisites** to become a Wreck 2 Instructor are:

1. UTD Wreck 1 Instructor
2. UTD Technical 2 Instructor
3. Three years of teaching experiences
4. Certified as a UTD Wreck 3 diver or equivalent
5. Proof of 1000 non training dives, 125 non-training wreck penetration dives.

Qualified to Teach

- 3-400 Overhead Protocols
- 3-450 Wreck 1
- 3-455 Wreck 2

4-423 Wreck 3 Instructor

Purpose

This IDC is designed to train UTD Wreck 2 Instructors how to teach the UTD Wreck 3 program.

Prerequisites

The **Prerequisites** to become a Wreck 3 Instructor are:

1. UTD Wreck 2 Instructor
2. UTD Technical 3 Instructor
3. Three years of teaching experiences
4. Certified as a UTD Wreck Gold diver or equivalent
5. Proof of 1000 non training dives, 200 non-training wreck penetration dives.

Qualified to Teach

- 3-400 Overhead Protocols
- 3-450 Wreck 1
- 3-455 Wreck 2
- 3-460 Wreck 3

4-424 Wreck Gold Instructor

Purpose

This IDC is designed to train UTD Wreck 3 Instructors how to teach the UTD Wreck Gold program which is the final course in the Wreck Penetration series. This is a class that lifts all restrictions on the diver in terms of depth, penetration limits, etc.

Prerequisites

The **Prerequisites** to become a Wreck Gold Instructor are:

1. UTD Wreck 3 Instructor
2. UTD Technical Gold Instructor
3. Three (5) years of teaching experiences
4. Certified as a UTD Wreck Gold diver or equivalent
5. Proof of 1000 non training dives, 200 non-training wreck penetration dives.

Qualified to Teach

- 3-400 Overhead Protocols
- All “Wreck Penetration Classes” as listed in section 3

4-500 Rebreather Instructor

The Prerequisites to become a UTD Rebreather Instructor are UTD Foundational Instructor, a minimum of 3 years teaching experience, UTD mCCR 2 or pSCR 2 or must have interned UTD mCCR or pSCR, proof of 1000 non-training dives, proof of 100 hours experience in the rebreather category of choice and at least UTD Tech 2 or equivalent. A Rebreather Instructor can teach Essentials of Rebreather Diving, pSCR and mCCR classes as designated by the UTD Training Advisory Board. Rebreather instructors must be current on an MX Series rebreather, meaning 25 hours in the last 6 months, and must own and use an approved MX Series rebreather during class.

4-511 pSCR 1 Instructor

Purpose

To train UTD Technical Instructors who are also pSCR rebreather divers to teach the entry level UTD pSCR 1 program.

Prerequisites

The Prerequisites to become a pSCR 1 Instructor are:

1. UTD Technical 2 Instructor
2. Two (2) years of teaching experiences
3. Certified as a UTD pSCR 2 diver or equivalent
4. Must intern UTD pSCR 1 class
5. Proof of 500 non training dives, 50 dives at depths below 130'.39m with staged decompression utilizing a single decompression bottle.

Qualified to Teach

- 3-550 UTD pSCR 1

4-512 pSCR 2 Instructor

Purpose

To train UTD pSCR Instructors 1 who wish to teach the UTD pSCR 2 program.

Prerequisites

The Prerequisites to become a pSCR 2 Instructor are:

1. UTD Technical 2 Instructor
2. UTD pSCR 1 Instructor
3. Two (2) years of teaching experiences
4. Certified as a UTD pSCR 3 diver or equivalent
5. Must intern UTD pSCR 2 class
6. Proof of 500 non training dives, 50 dives at depths below 160'/48m with staged decompression utilizing a two (2) decompression bottles.

Qualified to Teach

- 3-550 UTD pSCR 1
- 3-560 UTD pSCR 2

4-513 pSCR 3 Instructor

Purpose

To train UTD pSCR Instructors 2 who wish to teach the UTD pSCR 3 program.

Prerequisites

The Prerequisites to become a pSCR 3 Instructor are:

1. UTD Technical 3 Instructor
2. UTD pSCR 2 Instructor
3. Two (2) years of teaching experiences
4. Certified as a UTD pSCR Gold diver or equivalent
5. Must intern UTD pSCR 3 class
6. Proof of 500 non training dives, 50 dives at depths below 250'/75m with staged decompression utilizing a three (3) decompression bottles.

Qualified to Teach

- 3-550 UTD pSCR 1
- 3-560 UTD pSCR 2
- 5-570 UTD pSCR 3

4-514 pSCR Gold Instructor

Purpose

To train UTD pSCR Instructors 3 who wish to teach the UTD pSCR Gold program.

Prerequisites

The Prerequisites to become a pSCR Gold Instructor are:

1. UTD Technical Gold Instructor
2. UTD pSCR 3 Instructor
3. Two (2) years of teaching experiences
4. Certified as a UTD pSCR Gold diver or equivalent
5. Must intern or co-teach a UTD pSCR Gold class
6. Proof of 500 non training dives, 50 dives at depths below 250'/75m with staged decompression utilizing a three (3) decompression bottles.

Qualified to Teach

- All "pSCR Classes" as listed in section 3

4-521 mCCR 1 Instructor

Purpose

To train UTD Technical Instructors who are also mCCR rebreather divers to teach the entry level UTD mCCR 1 program.

Prerequisites

The Prerequisites to become a mCCR 1 Instructor are:

1. UTD Technical 2 Instructor
2. Two (2) years of teaching experiences
3. Certified as a UTD mCCR 2 diver or equivalent
4. Must intern UTD mCCR 1 class
5. Proof of 500 non training dives, 50 dives at depths below 130'.39m with staged decompression utilizing a single decompression bottle.

Qualified to Teach

- 3-510 UTD mCCR 1

4-522 mCCR 2 Instructor

Purpose

To train UTD mCCR Instructors 1 who wish to teach the UTD mCCR 2 program.

Prerequisites

The Prerequisites to become a mCCR 2 Instructor are:

1. UTD Technical 2 Instructor
2. UTD mCCR 1 Instructor
3. Two (2) years of teaching experiences
4. Certified as a UTD mCCR 3 diver or equivalent
5. Must intern UTD mCCR 2 class
6. Proof of 500 non training dives, 50 dives at depths below 160'/48m with staged decompression utilizing a two (2) decompression bottles.

Qualified to Teach

- 3-510 UTD mCCR 1
- 3-520 UTD mCCR 2

4-523 mCCR 3 Instructor

Purpose

To train UTD mCCR Instructors 2 who wish to teach the UTD mCCR 3 program.

Prerequisites

The Prerequisites to become a mCCR 3 Instructor are:

1. UTD Technical 3 Instructor
2. UTD mCCR 2 Instructor
3. Two (2) years of teaching experiences
4. Certified as a UTD mCCR Gold diver or equivalent
5. Must intern UTD mCCR 3 class
6. Proof of 500 non training dives, 50 dives at depths below 250'/75m with staged decompression utilizing a three (3) decompression bottles.

Qualified to Teach

- 3-510 UTD mCCR 1
- 3-520 UTD mCCR 2
- 5-530 UTD mCCR 3

4-524 mCCR Gold Instructor

Purpose

To train UTD mCCR Instructors 3 who wish to teach the UTD mCCR Gold program.

Prerequisites

The Prerequisites to become a mCCR Gold Instructor are:

1. UTD Technical Gold Instructor
2. UTD mCCR 3 Instructor
3. Two (2) years of teaching experiences
4. Certified as a UTD mCCR Gold diver or equivalent
5. Must intern or co-teach a UTD mCCR Gold class
6. Proof of 500 non training dives, 50 dives at depths below 250'/75m with staged decompression utilizing a three (3) decompression bottles.

Qualified to Teach

- All "mCCR Classes" as listed in section 3

4.2-600 UTD Gold Instructor

UTD Gold Instructor is an advanced instructor training course that focuses on the learning process. Designed for UTD instructors seeking advanced training within their current category, the program looks at the psychology of educating adults.

This is and academic class with optional dives, normally over a 4-day period.

Day 1 - The evolution of how we teach breathing and the development of ESM.
Day 2 - Levels of Learning: rote, understanding, application, correlation.
Day 3 - Principles of Learning: readiness, exercise, effect, primacy, intensity, recency.
Day 4 - Common student errors and problem recognition.

Among other things, the class addresses “over teaching,” which is giving the students too much too soon without creating a base. It also looks at instructor positioning, level two critical skills in foundational classes, video review techniques, and much more.

4.700 Instructor Trainers

Definitions

- Training Director – Director of all UTD training, appointed by UTD HQ.
- Training Advisory Board (TAB) – The overseeing council responsible for reviewing and approving all instructor candidates. Appointed by UTD HQ and consists of the UTD Training Directors and/or Instructor Trainers.
- Instructor Trainer Trainer – Teaches instructor trainers. Appointed by the HQ.
- Academic Instructor Trainer – Teaches the academic modules of the Instructor Trainer Workshop. Trained by HQ.
- Instructor Trainer – Teaches the in-water modules of the Instructor Trainer Workshop. Trained by HQ.
- Instructor – Teaches and certifies students in both the academic and the in-water portions of any UTD class within their appointed categories. Trained by HQ and an Instructor Trainer.
- Academic Instructor – Teaches and certifies students in the academic portions of a UTD class. Trained by Academic Instructor Trainer.

Foundational Instructor Trainer Prerequisites

- Must be an active status UTD Instructor for at least one year.
- Must be UTD Tech 2 and UTD Cave 1 or equivalents.
- Must have taught a minimum of 10 UTD classes.
- Must have completed UTD IT Prep class.
- Must intern/co-teach at least two IDCs, one taught by an HQ IT, and one taught by any IT.
- Must complete one initial renewal between six and 18 months after initial IT certification AND following the successful teaching of at least one Foundational IDC. Renewal is accomplished by interning/co-teaching one IDC with an HQ IT or an IT with internship ability.

Technical, Rebreather, and Overhead Category Instructor Trainer Prerequisites

- Must be a Foundational IT and have taught a minimum of two Foundational In-Water IDC modules
- Must have taught a minimum of 10 UTD classes in the Category
- Must intern at least one Category IDC with an HQ Instructor Trainer

Maintaining Active Status as a UTD Instructor Trainer

- Must teach a minimum of one UTD IDC each calendar year OR assist on a minimum of two UTD ICD’s each calendar year.
- Must teach a minimum of ten UTD students each calendar year.
- Must teach all UTD classes using standard UTD materials. UTD materials may not be co-branded.

4-701 Instructor Trainer Prep

UTD Gold Instructor may be co-taught with Instructor Trainer Prep, which has the same syllabus.

4-710 Foundational IT

4-720 Technical IT

4-740 Cave IT

4-750 Wreck IT

4-760 Side Mount IT

4-765 Back Mount IT

4-770 pSCR IT

4-780 mCCR IT

5.0 Appendix:

Overview of UTD Depth and Gas Limits per Class

UTD International Course	Depth limits (ft/m)	Backgas (O2/Helium) limits	Deco (O2) limits	Number of Deco Bottles	Max Deco Time	Number of Stage Bottles
Open Water Diver	60'/18m	Air	N/A	None	None	None
Recreational Diver 1	60'/18m	32%	N/A	None	None	None
Advanced Open Water	60'/18m	Air	N/A	None	None	None

Recreational Diver 2	100'/30m	32%	N/A	None	None	None
Recreational Diver 3	130'/39m	25/25	N/A	None	None	None
Essentials (All) *	60'/18m	None	N/A	1*	None	or 1*
Techreational Diver	130'/39m	25/25	100%	1	1 O2 cycle	None
Technical 1 Diver	160'/48m	18/45	50 or 100%	1	30 min	1
Technical 2 Diver	200'/60m	18/45	50 and 100%	2	60 min	None
Technical 3 Diver	250'/75m	15/55	35/25 & 50 & 100%	Multiple	90 min	Multiple
Technical Gold Diver	Unlimited	All	All	Multiple	Unlimited	Multiple
Essentials of Rebreather Diving	60'/18m	32%	N/A	None	None	N/A
mCCR 1	130'/39m	25/25	N/A	1	None	N/A
mCCR 2	160'/48m	18/45	50 and 100%	2	30 min	N/A
mCCR 3	200'/60m	All	50 and 100%	3	90 min	N/A
mCCR Gold	Unlimited	All	All	Multiple	Unlimited	Multiple
pSCR 1	130'/39m	25/25	N/A	None	None	N/A
pSCR 2	200'/60m	15/55	50 and 100%	2	60 min	N/A
pSCR 3	250'/75m	10/70	50 and 100%	3	90 min	N/A
pSCR Gold	Unlimited	All	All	Multiple	Unlimited	Multiple
Wreck Penetration 1	100'/30m	25/25	N/A	N/A	None	N/A
Wreck Penetration 2	100'/30m	25/25	N/A	N/A	None	N/A
Wreck Penetration 3	160'/48m	18/45	As Trained	Multiple	90 min	Multiple
Wreck Penetration Gold	Unlimited	All	All	Multiple	Unlimited	Multiple
Cave 1	100'/30m	32%	N/A	N/A	None	N/A
Cave 2	130'/39m	25/25	As Trained	Multiple	30 min	Multiple
Cave 3	160'/48m	18/45	As Trained	Multiple	90 min	Multiple
Cave Gold	Unlimited	All	All	Multiple	Unlimited	Multiple
Scooter 1	100'/30m	N/A	N/A	N/A	None	N/A
Ratio Deco	N/A	N/A	N/A	N/A	N/A	N/A
Nitrox Diver	100'/30m	32%	N/A	None	None	None
Scubatics Competition Diver	60'/18m	N/A	N/A	N/A	N/A	N/A
Rescue Diver	60'/18m	N/A	N/A	N/A	N/A	N/A

***** Essentials of Tech is not a decompression class, however, the students are introduced to the mechanics of handling one deco or stage bottle.

UTD Standard Gas Mixes

Bottom mixes have an MOD PPO2 of 1.4 ATA/Bar.

Bottom mixes have an average PPO2 of 1.2 ATA/Bar for the working depth.

Deco mixes have an MOD PPO2 of 1.6 ATA/Bar.

Deco mixes have an average PPO2 of 1.2 ATA/Bar (except for O2) averaged over the range the deco mix is used.

Equivalent Narcotic depth is 100ft/30m or less based on a conservative formula of END=(1-HE) x ATA's.

Bottom Mixes	**Working Depth**	**MOD**
Nitrox 32	0 – 100'/30m	111'/33m
Normoxic trimix 25/25	100'/30m - 130'/39m	151'/46m
Normoxic trimix 21/35	130'/39m - 160'/48m	190'/57m
Trimix 18/45	160'/51m - 200'/60m	220'/66m
Trimix 15/55	200'/63m - 240'/72m	275'/83m
Trimix 12/60	250'/75m - 300'/90m	352'/106m
Trimix 10/70	300'/93m - 400'/120m	429'/130m
Deco Mixes	**Max Depth**	
100% oxygen	20'/6m	
Nitrox 50	70'/21m	
Normoxic trimix 35/25	120'/36m	
Normoxic trimix 21/35	190'/57m	

UTD Extra-Curricular General Release of Liability and Covenant Not to Sue for Recreational, Technical and Overhead Environment SCUBA Diving

In consideration of permitting me, _____ certified as a
(PARTICIPANT'S NAME)
Scuba Diver by_____ and trained to a depth of _____feet/meters
(CERTIFYING AGENCY) (MAXIMUM TRAINING DEPTH)
to participate in SCUBA diving and related activities conducted by

_____ through the facility of _____
(DIVE LEADER'S NAME) (DIVE BUSINESS NAME)
in the city of _____ in the County of _____, and State

of _____,beginning on the _____ day of _____ , 20 _____ , I, for

myself, my personal representatives, heirs and next of kin:

1. HEREBY acknowledge that SCUBA DIVING IS A POTENTIALLY DANGEROUS ACTIVITY and involves the risk of serious injury and/or death and/or property damage. I further acknowledge that diving with compressed air involves certain risks and injuries that can occur which require treatment in a recompression chamber or other facility which may require a great distance of travel. I understand that the activities in which I am participating may be conducted at a site that is remote, either by time or distance or both, from a recompression chamber or medical facilities. _____ (Initials)

2. HEREBY RELEASE, WAIVE, AND DISCHARGE the dive leader named above, UTD Scuba Diving, LLC. (aka UTD, aka Unified Team Diving, aka Public Safety Team Diving), and any of its officers, instructors, agents or employees (the Releasees) FROM ALL LIABILITY TO MYSELF, my personal representatives, assigns, heirs, and next of kin FOR ANY AND ALL LOSS OR DAMAGE, AND ANY CLAIM OR DEMANDS THEREFOR ON ACCOUNT OF INJURY TO MY PERSON OR PROPERTY OR RESULTING IN MY DEATH, NOW AND FOREVER, ARISING OUT OF OR RELATED TO MY PARTICIPATION IN SCUBA DIVING OR ANY RELATED ACTIVITIES, WHETHER CAUSED BY THE NEGLIGENCE OF THE RELEASEES OR OTHERWISE. _____ (Initials)

3. HEREBY ASSUME FULL RESPONSIBILITY FOR ANY RISK OF BODILY INJURY, DEATH OR PROPERTY DAMAGE, now and forever, arising out of OR RELATED TO MY PARTICIPATION IN SCUBA DIVING OR ANY RELATED ACTIVITIES, whether foreseen or unforeseen and whether caused by the negligence of the Releasees or otherwise. _____ (Initials)

4. HEREBY agree to INDEMNIFY and SAVE and HOLD HARMLESS the Releasees from any loss, liability, damage or cost any of them may incur, now and forever, arising out of OR RELATED TO MY PARTICIPATION IN SCUBA DIVING OR ANY RELATED ACTIVITIES, whether caused by the negligence of the Releasees or otherwise. _____ (Initials)

5. HEREBY acknowledge that INJURIES RECEIVED MAY BE COMPOUNDED OR INCREASED BY NEGLIGENT RESCUE OPERATIONS OR PROCEDURES OF THE RELEASEES and agree that this agreement and release extends to all acts of negligence by Releasees, INCLUDING NEGLIGENT RESCUE OPERATIONS. _____ (Initials)

6. HEREBY agree NOT to SUE or otherwise assert any claim against any of the Releasees for any injury or damage I may incur as a result of my participation in SCUBA diving or any related activities. I understand that if, notwithstanding my agreement not to sue, I bring any action against Releasees for any claim released pursuant to this agreement, the prevailing party in any such action shall be entitled to recover reasonable attorneys' fees and costs. _____ (Initials)

7. HEREBY ACKNOWLEDGE that the Release included in this agreement is intended to be as broad and inclusive as permitted by the laws of the Province or State in which the activities are conducted and that if any portion of this agreement and release is held invalid, the balance shall continue in full legal force and effect. _____ (Initials)

8. HEREBY ACKNOWLEDGE I have read this agreement, fully understand its terms, understand that I have given up substantial rights by signing it, am aware of its legal consequences, and have signed it freely and voluntarily

without any inducement, assurance, or guarantee being made to me and intend my signature to be a complete and unconditional release of all liability to the greatest extent allowed by law. I understand that this agreement represents the entire agreement between the parties regarding the subject matter hereof and supersedes any prior or contemporaneous agreements. I understand that this agreement may not be orally modified and I am not relying on representations made by anyone other than those set forth in this agreement. _____ (Initials)

BY WAY OF MY VOLUNTARY SIGNATURE, I AGREE THAT I HAVE FULLY READ AND UNDERSTAND THIS DOCUMENT IN ITS ENTIRETY. I UNDERSTAND THAT THIS IS A LEGALLY BINDING CONTRACT NOT TO SUE AND AGREE TO BE BOUND BY IT.

This Agreement is binding from date of the Participant's signature until the end of the calendar year.

Signature of Participant _____ Date_____

Participant's Name (Print) _____

Witness _____ Date_____

If the participant is under the age of 18, then the parent or guardian must sign this agreement and agree to be legally bound by it and furthermore be legally responsible for the minor participant, including being responsible for all damages, injury or death which may occur as a result of the minor's participation in diving activities. The parent or guardian hereby agrees to be fully responsible to the "Released Parties" for any damage, injury or death caused by the minor, including actions brought by the minor, for any damages whatsoever.

The parent or guardian as well as the minor hereby also agree to dive in teams of three, consisting of two adults and the minor

Name of Minor (Print) _____

Signature of Parent/Guardian _____
Date_____

Name of Parent/Guardian (Print) _____

INSTRUCTOR/LEADER CONFIRMATION

I HAVE REVIEWED THIS AGREEMENT AND CONFIRM THAT IT HAS BEEN PROPERLY COMPLETED.

Signature of Dive Instructor/Leader_____ Date _____

Important Instructions
The proper presentation, completion and keeping of records are important considerations if the desired protection is to be afforded a practicing professional by a RELEASE OF LIABILITY, WAIVER OF CLAIMS, EXPRESS ASSUMPTION OF RISK AND INDEMNITY AGREEMENT. To ensure the completed agreement will be most valuable to you in case a claim of negligence is made against you, follow these steps.

1. Instruction- Webster's New Universal Unabridged Dictionary © 1994 defines "safe" as, "1. secure from liability to harm, injury, danger, or risk: *a safe place.*" Clearly scuba diving is not safe! One of the attractions of scuba diving is the adventure and "danger" of the activity. We can make diving "safer." We can minimize risk. In concept every diving instructional program is in reality a risk management program, in that we develop the attitude, skills and knowledge necessary for the diver to participate in an adventure activity while minimizing the risks thereof.

2. Explain - An individual must be cognizant of the risks of an activity for which they are being asked to accept responsibility. Read the waiver and release agreement to the participants.

3. Answer Questions - Leave ample time to ask for and answer any questions regarding the release and risks of the planned dive or instructional activity. Refer to #1 as the reason releases are necessary.

4. Accuracy - It is important from a legal perspective that those named in the release, instructors, students, divers being supervised, and other entities be identified by their full legal names (middle initials are acceptable). Do not use nicknames such as ScubaBob for the instructors or assistants or other variations like Jimmy for James. Also, list each instructor or assistant on staff by name, not just as "staff." Waiver and release agreement wording is based upon recent legal developments and legal counsel's review and must not be altered in any way.

5. Complete - The entire release must be completed. This is the reason for the confirming signature now required of the instructor/leader who collects and reviews the release agreements. The reaffirmation signature line may be used before the trainees' first open water training dive or when they are transferring to a continuing education course with the same instructor. In either case the instructor supervisor must complete steps 1 through 3 to ensure that students or divers understand and have an opportunity to withdraw from the activity should they not wish to accept the risks and responsibility of the activity.

6. Timing - Participants must be given an opportunity to withdraw from the activity should they not wish to accept the risks and responsibility of the activity. This decision to participate or not must be theirs, and be free from coercion or penalty - monetary or otherwise. Therefore, it is important that the release agreement review session be scheduled as far in advance of an activity as is possible.

7. Record Keeping - The TRAINING WARRANTIES state, "All records relating to individual students shall be retained for a minimum of five (5) years by the instructor and/or dive center."

8. Producing the waiver and agreement in the event of a claim - It is required, upon request by the Association or its representatives, that you be able to provide an original, completed, properly executed waiver and release agreement.

9. In case of an incident - Refer to the UTD Standards and Procedures. There you will find accident management guidelines and a report form. Direct your completed report form and any questions you may have regarding an incident or the reporting form directly to UTD's BOD.

10. A properly executed waiver protects you, the Association and the insurance program

underwriters from claims made against you. The lack of same can result in significant monetary losses to all involved and could result in a restriction or denial of your coverage because of your violation of the policy's warranty regarding waivers.

Medical Form
UTD Scuba Diving, LLC (UTD) Medical Evaluation and Physician Approval

NAME:
_____
ADDRESS:
_____
CITY: _____
STATE/PROVINCE: _____ ZIP/POSTAL: _____
COUNTRY: _____ HOME/WORK PHONE:
_____

To the Instructor: If any condition listed on the medical history form in the student record folder is checked by the student, you are required to send the student to a physician for a medical exam. In the event that referral to a physician is necessary, provide the student with this UTD Medical Form and transfer the student's medical history and any notes to the copy to take with them to the physician.

To the Physician: This person is an applicant for training in diving with self-contained underwater breathing apparatus (SCUBA). This is an activity which puts unusual stress on the individual in several ways. A list of contraindications is attached to this form for your reference.

The student applicant's medical history below was provided during the enrollment process.

—— Behavioral health problems
—— Claustrophobia
—— Agoraphobia
—— Migraine headaches
—— Epilepsy
—— Ear or hearing problems
—— Trouble equalizing pressure
—— Sinus trouble
—— Severe hay fever
—— Heart trouble
—— High blood pressure
—— Angina
—— Heart surgery
—— Any medical condition not listed
—— Bronchitis
—— Tuberculosis
—— Respiratory problems
—— Back Problems
—— Back/spinal surgery
—— Diabetes
—— Ulcers
—— Colostomy
—— Hernia
—— Dizziness or fainting
—— Recent surgery
—— Hospitalized
—— Pregnant
—— Motion Sickness
—— Contact lenses
—— Dental plates
—— Physical disability
—— Serious injury
—— Over 40 years old
—— Hepatitis
—— HIV positive
—— Regular medication
—— Drug allergies
—— Alcohol or drug abuse
—— Rejected from activity
—— Asthma

Notes :
_____
_____
_____
_____

PLEASE RETURN THIS FORM TO THE STUDENT APPLICANT
Please note that the medical examination form presents a choice under IMPRESSION. We can only accept unconditional approval as stated for student applicants desiring to begin or continue training. If you conclude that diving is not in the individual's best interest or that their medical condition is likely to present a probable direct threat to others, please discuss your opinion with the person and check disapproval.

IMPRESSION:

___ APPROVAL (I find no medical conditions I consider incompatible with diving.)
___ DISAPPROVAL (This applicant has medical conditions which, in my opinion, clearly would constitute unacceptable hazards to health and safety in diving.)

Date_____ Signature _____ , MD.

Physician's Name (print):

_____

Address_____

Phone _____

Contraindications to Diving
This list of relative and absolute contraindications is not all inclusive. Contraindications that are absolute permanently place the diver and his diving partners at increased risk for injury or death. Relative contraindications to scuba may be resolved with time and proper medical intervention or may be intermittent. A bibliography is included to aid in clarifying issues that arise. The Divers Alert Network (DAN) physicians are available for consultation by phone (919) 684-2948 during normal business hours. For diving related emergencies call, DAN at (919) 684-8111 24 hours, 7 days a week.

OTOLARYNGOLOGICAL

Relative Contraindications:
- History of...
  - significant cold injury to pinna
  - TM perforation
  - tympanoplasty
  - mastoidectomy
  - mid-face fracture
  - head and/or neck therapeutic radiation
  - temporomandibular joint dysfunction
- Recurrent otitis externa
- Significant obstruction of the external auditory canal
- Eustachian tube dysfunction
- Recurrent otitis media or sinusitis
- Significant conductive or sensorineural hearing impairment
- Facial nerve paralysis not associated with barotrauma
- Full prosthodontic devices
- Unhealed oral surgery sites

Absolute Contraindications:
- History of...
  - stapedectomy
  - ossicular chain surgery
  - inner ear surgery
  - round window rupture
  - vestibular decompression sickness
- Monomeric TM
- Open TM perforation
- Tube myringotomy
- Facial nerve paralysis secondary to barotrauma
- Inner ear disease other than presbycusis
- Uncorrected upper airway obstruction
- Laryngectomy or status post partial laryngectomy
- Tracheostomy
- Uncorrected laryngocele

NEUROLOGICAL

Relative Contraindications:
- History of...
  - head injury with sequelae other than seizure
  - spinal cord or brain injury without residual neurologic deficit
  - cerebral gas embolism without residual, pulmonary air trapping has been

excluded
- Migraine headaches whose symptoms or severity impair motor or cognitive function
- Herniated nucleus pulposus
- Peripheral neuropathy
- Trigeminal neuralgia
- Cerebral palsy in the absence of seizure activity

Absolute Contraindications:
- History of...
  - Seizures other than childhood febrile seizures
  - TIA or CVA
  - Spinal cord injury, disease or surgery with residual sequelae
  - Type II (serious and/or central nervous system) decompression sickness with permanent neurologic deficit
- Intracranial tumor or aneurysm

CARDIOVASCULAR

Relative Contraindications:
The suggested minimum criteria for stress testing is 13 METS.
- History of...
  - CABG or PCTA for CAD
  - myocardial infarction
  - dysrhythmia requiring medication for suppression
- Hypertension
- Valvular regurgitation
- Asymptomatic mitral valve prolapse
- Pacemakers-Note: Pacemakers must be depth certified by the manufacturer to at least 130 feet (40 meters) of sea water.

Absolute Contraindications:
- Asymmetric sepal hypertrophy and valvular stenosis
- Congestive heart failure

PULMONARY

Asthma (reactive airway disease), COPD cystic or cavitating lung diseases all may lead to air trapping.

Relative Contraindications:
- History of...
  - prior asthma or reactive airway disease (RAD)*
  - exercise/cold induced bronchospasm (EIB)
  - solid, cystic or cavitating lesion
- Pneumothorax secondary to: thoracic surgery *, trauma or pleural penetration*, previous over inflation injury*
- Restrictive Disease**

(*Air Trapping must be excluded) (**Exercise Testing necessary)

Absolute Contraindications:
- History of spontaneous pneumothorax
- Active RAD (asthma), EIB, COPD or history of the same with abnormal PFS or positive challenge
- Restrictive diseases with exercise impairment

GASTROINTESTINAL

Relative Contraindications:
- Peptic ulcer disease
- Inflammatory bowel disease
- Malabsorption states
- Functional bowel disorders
- Post gastrectomy dumping syndrome
- Paraesophageal or hiatal hernia

Absolute Contraindications:
- High grade gastric outlet obstruction
- Chronic or recurrent small bowel obstruction
- Entrocutaneous fistulae that do not drain freely
- Esophageal diverticula
- Severe gastroesophageal reflux
- Achalasia
- Unrepaired hernias of the abdominal wall potentially containing bowel

METABOLIC AND ENDOCRINOLOGICAL

Relative Contraindications:
- Hormonal excess or deficiency
- Obesity
- Renal insufficiency

Absolute Contraindications:
- Diabetics on Insulin therapy or oral anti-hypoglycemia medication

PREGNANCY

Absolute Contraindications:
Venous gas emboli formed during decompression may result in fetal malformations. Diving is absolutely contraindicated during any state of pregnancy.

HEMATOLOGICAL

Relative Contraindications:
- Sickle cell trait
- Acute anemia

Absolute Contraindications:
- Sickle cell disease
- Polycythemia
- Leukemia

ORTHOPEDIC

Relative Contraindications:
Chronic Back Pain
Amputation
Scoliosis - assess impact on pulmonary function
Aseptic osteonecrosis

BEHAVIORAL HEALTH

Relative Contraindications:

- History of
  - –drug or alcohol abuse
  - –previous psychotic episodes
- Developmental delay

Absolute Contraindications:

- History of panic disorder
- Inappropriate motivation for scuba training
- Claustrophobia and agoraphobia
- Active psychosis or while receiving psychotropic medications
- Drug or alcohol abuse

BIBLIOGRAPHY

The Physiology and Medicine of Diving, 4th edition, 1993; Diving and Subaquatic Medicine, 3rd edition 1994; Diving Physiology in Plain English, 2nd edition, 1997

Reporting Instructions

Instructions for Accident Reporting

To Be Filled Out and Submitted As Soon As Possible.
Required By Your Insurance Carrier To Keep Your Policy In Effect.
This accident report and the information which is enclosed in this report is considered to be privileged and
specifically for the use of legal counsel. While it does not necessarily follow that each accident or incident involving a UTD member will result in some form of legal action, the possibility does exist that a legal claim could occur. By submitting this report immediately you will help us prepare to defend you and your association against loss. If an accident does occur during the time that you have responsibility for students and/or divers, there are several steps you should follow in addition to completing this accident report:

- Render aid to the best of your ability, but do not attempt to perform medical procedures which exceed your skill and your training.
- Do not volunteer to anyone an opinion as to why the accident occurred. Limit your discussion to the facts as you know them. Do not make conjectures and do not attempt to assess “blame” on anyone. Do not tell people that “it’s all my fault”, or words to that effect. Even if you have a feeling of guilt, do not discuss it with others!
- Cooperate with all law enforcement personnel who may be called to assist. While answering their questions, follow the instructions outlined above (in bullet #2). Limit your answers to the facts as you know them.
- Be certain to obtain the names, addresses and telephone numbers of all witnesses. This includes even those who you may consider to be “hostile” ones. For your protection, we need to know all those who are in any way connected with the accident.
- It is essential that you keep track of any equipment which may be involved in the accident. This does not mean you need to keep the equipment, but rather, know and report to us where it went and who had control of it when you last saw it.
- Be certain that you include a photocopy or the original of all waiver and release forms that you had the victim complete if the victim was under your supervision.
- Please use as many additional sheets of paper as are necessary to ensure that a clear and complete accounting of the accident is submitted.
- After you have prepared this report to the best of your ability, it should be submitted as soon as possible to:

UTD International, Inc.
8545 Arjons Dr., Suite N
San Diego, CA 92126
+1 760-585-9676
info@unifiedteamdiving.com

If you have specific questions or problems relating to an accident or in filing this report, please Do Not Hesitate To Call!

UTD Scuba Diving, LLC (UTD) Incident/Accident Reporting Form:

VICTIM INFORMATION:
Name_____
Address_____
Phone Number_____ Age ____ Date of Birth _____
Gender (check): ___M ___F Marital Status___ Height____ Weight_____
Certified Diver: __Yes __ No If YES, what agency?_____
Level of Diver Certification_____ Occupation_____
Date of Incident _____ Time of Incident_____

PERSON MAKING REPORT:
Name_____
Address_____
Phone Number: Work _____ Home _____
Did you witness the incident? _ Yes _ No Are you a Certified Diver? _ Yes _ No
Level of Diver Certification_____
Relationship to accident victim_____

DIVING LEADER INFORMATION:
Name_____
Address_____
Phone Number: Work _____ Home _____
Agencies certified by_____ Level of Diver Certification_____
Agency under which you are instructing under:_____
Professional liability Insurance company_____

WITNESS INFORMATION:
Names, addresses and phone numbers of key witnesses (if witness statements are taken, be sure the statements provide only facts and no opinions. Have witness date and sign each page. Attach copies to this report)
NAME STREET, CITY, STATE, ZIP TELEPHONE
_____
_____
_____

Accident Report Information:
GENERAL INFORMATION:
Type of incident: __ Non-injury __ Bodily injury __ Fatality
Diving activity at time of incident: __ Receiving instruction __Sponsored group diving
Other_____
Victim was: __ Scuba diving __ Snorkeling __
Other_____
Location of Incident::__ Pool __ Lake __ Quarry __ River __ Ocean __
Other_____
Describe location by state, county and nearest geographic location:
_____
_____
_____
Was there any apparent panic by victim? __ YES __ NO
Victim recovered: __ On surface __ Below, at depth of_____
Length of time from incident to recovery of victim?

_____
Who made the rescue/recovery?

_____
Was rescue breathing attempted? __ YES __ NO
Was CPR attempted? __ YES __ NO
Was oxygen given? __ YES __ NO If YES, by whom?

_____
Were emergency medical services used? __ YES __ NO If YES, what agency?
_____
_____
_____
Was victim transported to medical facility? __ YES __ NO If YES, what facility?
_____
_____
____
Did the victim receive recompression treatment? __ YES __ NO
If YES, where?
_____
_____
Please attach a copy of any waiver, release or statement of understanding form. If the accident took place during training, please attach copies of training records. If possible, attach a copy of victim's log book.

VICTIM'S EQUIPMENT:
Of the following items, indicate those that apply:

__ Mask
__ Fins
__ Snorkel
__ BC Type and Size_____
__ Regulator
__ Protective Suit Type_____
__ SPG
__ Depth Gauge
__ Alternate Air Source Type_____
__ Weighting system Amount_____
__ Tank Size & Type_____
__ Knife
__ Surface Float Type_____
__ Underwater Light
__ Dive Computer Brand & Model_____
__Other:_____
__

Were there apparent equipment problems? __ YES __ NO
Describe_____
_____
_____

Was the equipment rented? __ YES __ NO *If YES, from where?
_____
Amount of air in tank after incident_____ Current location of equipment_____

Is equipment being tested?__ YES __ NO If YES, by whom?
_____
_____
DIVING INFORMATION:
Mode of entrance: ____ Shore ____ Boat ____
Other_____
Incident occurred: ____ On surface ____ Below at depth
of_____
Water conditions: ____ Calm ____ Rough _____ Wave Height _____ Water Temperature _____
Visibility
Victim was: __ Alone __ With buddy ___ Buddy contact broken ___ Entangled in what?
_____
Type of diving:

- __ Deep dive
- __ Current dive
- __ Wreck dive
- __ Boat dive
- __ Night dive
- __ Photography dive
- __ Limited visibility dive
- __ Cavern dive
- __ Other_____

BRIEF NARRATIVE DESCRIPTION (Attach separate sheet. Provide only the facts and no opinions.)
Include a list of emergency services or other agencies known to have taken reports.
Date of this report_____
Signature_____
_____

Do not provide this report to any other party.

Definitions

Appropriate Diver Support - First aid equipment including but not *limited* to a first aid kit suitable for the planned diving activities, an emergency oxygen unit with a capacity of delivering pure oxygen for at least 20 minutes and a communication system suitable for alerting emergency services.
Back-gas Break – A switch to the back gas (or the lowest PPO2 available) that is conducted during extended decompression that is done prior to any switch to long and high PPO2 exposure (1.4 ata or higher).
Bottom Mix – The gas mixture(s) in the cylinder(s) intended to be used during performance of the bottom time phase of the dive.
Briefing – Short pre-dive discussion between Instructor and students including but not limited to procedures to be followed (team assignments, entry, descent, ascent, surfacing, exit, time/depth limits, problem/emergency situations), site/environmental considerations, communication, pre dive equipment preparation, drills to be practiced (in case of training), and post dive procedures.
Cave Dive – Dives into a cavern/cave beyond where a light from an exit point can be seen.
Cavern Zone - the part of the overhead environment where daylight is still visible, however no further than 200 linear feet/60 meters from the surface. A cavern dive at night is a cave dive.
Commercial Diving – A form of diving, excluding instruction, where the diver works for hire and his/her employment depends on a willingness to dive.
Confined Water – Any body of water with limited current, which meets the appropriate UTD visibility requirements, that is calm and has shallow water access such as swimming pools, lakes, springs, sinks, quarries, bays, and beaches that are protected from open seas and rough water. Training sessions must be limited in confined water experiences to no deeper than 30 fsw (10 msw) for sport diver level courses and 40 fsw (12 msw) for technical diver level courses.
Confined Water Session – An instructional session that takes place in confined water. The confined water sessions will include an introduction, demonstration and student performance of watermanship, skills and techniques to be developed during the course. When teaching courses that combine two or more levels of training the confined water skills for the courses may be combined into one session.
Critical Skills – Drills or skills that involve loss of visibility, loss of mask, loss of lights, simulated out-of-gas scenarios, simulated manifold failures, “air gunning” drills, surprise valve manipulation such as roll off’s and isolator failures, rescue techniques involving assisting simulated panicked divers, convulsing divers and unconscious divers.
Debriefing - Post dive discussion between instructor and students including but not limited to comments on the dive and further directions. This briefing may begin with a *short* review on the surface following a dive, but will be continued after the water session is complete.
Decompression Mix – The gas mixture(s) in the cylinder(s) used during the ascent (decompression) phase of the dive.
Direct Supervision – Supervision by the instructor of the class or group of students from a distance allowing a direct intervention on behalf of the student.
Diver’s Medical Release – An approved diving medical statement. This is required prior to involvement in the first water session of a given course or combination of courses.
Emergency plan – A written piece of information including but not limited to procedures for casualty recovery, resuscitation and evacuation, use of emergency oxygen supply, information about the nearest medical resources and information about the nearest hyperbaric recompression chamber.
END – Equivalent Narcotic Depth
Endorsement - An endorsement adds to a current certification level to certify that the diver is proficient at the required skills and is now allowed to access the additional privileges the endorsement provides.
Escorting – Supervision of an individual student or group of students by someone other than the instructor. (Qualified teaching assistants may escort students during surface excursions and

exits, ascents and descents and may attend to remaining students while the instructor conducts a skill with other students or if no skills are being performed by the student).
Normoxic trimix – A breathing gas mixture of Normoxic Trimix that includes, Helium, Nitrogen, and up to 25% oxygen. UTD Standard Normoxic trimix mixes are 25/25 and 21/35 only.
Gap - In a cave, the space between the end of one permanent line and the end of another permanent line. Does not involve a navigational decision.
Indirect Supervision – Supervision by a qualified teaching assistant during segments of a dive where skills are not practiced. An Instructor must be present at the site and in control of the activities. The Instructor must approve all diving activities, approve the dive plan, perform dive preparations and equipment configuration, observe entries, exits and debriefings, and be prepared to quickly enter the water if necessary. The Instructor must be able to respond to any emergency and must be able to take control of any program at any time.
Instructor – An individual who is qualified by UTD to teach complete or a part of specific diver training courses.
Instructor Trainer – An individual who is qualified by UTD to teach specific instructor training courses, upon completion of a formal instructor trainer development and evaluation course.
Intern Instructor – An Instructor Candidate who has completed a UTD IDC but is not yet qualified as an Active Status Instructor in a particular category.
Jump - In a cave, the space between the end of one permanent line and the middle of another (or vice-versa) or the middle of one permanent line and the middle of another. Involves at least one navigational decision.
In Water Training - A combination of confined water and open water dives.
Mainline (often referred to the “gold line” in Florida) - a permanent line in a cave or cavern, which may be - but not necessarily is - thicker than temporary lines (e.g. primary reel line or spool line). This permanent line usually represents the “trunk line” of the cave/cavern, while jump lines may be viewed as “branch lines.”
Minimum Decompression (Min. Deco) – An ascent profile for No-decompression dives (N.D.L. dives) that begins at one-half the maximum depth of the dive, then stops for one minute for every 10’/3m thereafter until the surface. The 1 min stops includes the ascent time to the next stop depth.
MINI Class- A mini class is a specific skill or set of skills that is normally part of a certification class. A diver would take a mini to learn these specific skills of a class in order to adequately prepare for that class. MINI’s generally consist of a short lecture and dives illustrating the skills. MINI’s are non certification and purely demonstration of the skill set.
Open Water (OW) – Any body of water, excluding swimming pools and training tanks, that is 15 fsw (4.5 msw) or deeper for sport diving courses, or at least 40 fsw (12 msw) deep for technical diving courses.
Overhead Environment – Any dive site that has a physical ceiling, such as wrecks and caverns, from which a quick and direct escape to the surface cannot be safely made.
Overseeing – The overall control, intermittent supervision, evaluation, and direction of instruction, student skill performance and diving activities by an instructor of a class or group of students. The instructor must be present at the training site and on the training dives, and be prepared to render appropriate in-water assistance in aid of a student.
Oxygen Cycle – Oxygen cycles are considered ten to fifteen (10-15) minutes on 100% oxygen at a PPO2 of 1.6 followed by a reduction of the high PPO2 (1.4 and above) by either a direct ascent to the surface on the oxygen therefore lowering the PPO2 or a back gas break (on the lowest FO2 back-gas available which is safe at current depth). The back gas break is only conducted if further O2 cycles are needed.
Pre Dive Check - A check including but not limited to gas availability and suitability for the dive and equipment operating condition. It is sometimes conducted by the dive buddy in the water or just before entering.
Ratio Deco - Ratio Deco is a methodology that allows a diver to apply various existing decompression models into a cohesive strategy for the team to apply during a dive. It is

decompression “on the fly.” Ratio Deco is NOT a scientific decompression model or theory, rather it is an application of those theories.
Recreational Diving – All forms of diving intended for recreational **Purpose**s or instruction of recreational divers, in which the diver has the option to dive. This includes both the most popular form of recreational diving, sport diving; as well as technical diving, which is an advanced form of recreational diving.
Software Generated Tables – Decompression profiles produced by various dive planning soft ware. These may be used in conjunction with the required UTD Dive Tables or a Dive Computer. In training the student must always have UTD dive tables in their possession when performing dives as primary or back up schedules.
Speciality Class- A speciality class is a specific class certifying the diver in a specific set of skills or piece of equipment that they can then safely use at the current level of certification and/ or configuration.
Sport Diving – The most common form of recreational diving. Sport diving is performed using either air or Nitrox mixtures up to 40% oxygen on dives no deeper than 130 fsw (39 msw). Sport divers at the level of Advanced EANx or Advanced Recreational Trimix, which is defied as an entry level technical course may not engage in dives requiring a total of more than 15 minutes of decompression time, or dives with a higher decompression PO2 of 1.5.
Supervision – Having direct control over an individual student or group of students, with an ability to directly intervene if needed.
Technical Diving – An advanced form of recreational diving utilizing skills, techniques, equipment and knowledge beyond the requirements of sport diving. Technical diving includes, but is not limited to, dives deeper than 130 fsw (39 msw), dives into overhead environments beyond a visible exit point, dives using mixed gas (in addition to sport diving EANx mixtures), and dives requiring staged decompression.
Training Dives – An excursion by a student diver into open-water or overhead environments while fully equipped for the planned activity. Each dive must include at least one entry and one exit and underwater activity breathing from SCUBA for a minimum of 20 minutes to a depth of at least 20 fsw (6 msw) for sport diving courses, or 40 fsw (12 msw) for technical level courses.
Travel Mix – The gas mixture(s) in the cylinders used to provide an advantageous or safer breathing mixture while descending or traveling to or in some cases from a deeper phase of the dive.
Trimix – A breathing gas mixture of Hypoxic Trimix that includes, Helium, Nitrogen, Oxygen. UTD Standard Trimix mixes are 18/45, 15/55, 12/60, 10/70 only
Virtual Overhead Environment – Any dive from which a direct ascent to the surface would violate required decompression obligations.
Waiver – An UTD Inc./UTD liability waiver. A waiver is needed for each specific course or, if a series of courses are taught concurrently, one waiver may list each Program in the training curriculum. If there is an interruption in the training program of more than 90 days, a new waiver shall be completed.
Workshop - A workshop is a non certification class that demonstrates to a student a specific set of skills and technique. All participants receive a certificate of participation.
Wreck Penetration – Excursions inside of a wreck beyond where light from an exit point can be seen.