NASE WORLDWIDE

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Instructor Manual

Instructor Manual

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ISO 11121 INTRO TO SCUBA

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Contents

1.00.00.00 Administrative Standards

The following procedures apply to all NASE Worldwide training, classes, and courses under the supervision of certified NASE Worldwide Instructors of all levels who are renewed and in Teaching status.

1.0100.00 Required Paperwork

Every student who enrolls in a NASE Worldwide course is to fill out the following forms prior to the start of training. The sole exception is the Acknowledgment of Safe Diving Practices and Release After Training form, which is to be completed following training but prior to certification.

> NASE forms may be printed out and completed by hand, or they may be completed and signed digitally using Adobe Acrobat Pro or Acrobat Reader. Completing these forms electronically is faster, more convenient, more legible, and helps save paper. It also enables completed forms to be transmitted by e-mail between the student and instructor or dive center.

Instructors are encouraged to download these forms, as needed, from the NASE Worldwide website. Doing so will help ensure that only the latest, most up-to-date forms are used.

1.01.01.00 Liability Release and Assumption of Risk

The liability release informs students of the risks associated with diving and diver training. It helps provide instructors,

dive operators, and training agencies with legal protection against unwarranted or frivolous lawsuits. The release, however, does not absolve instructors or dive operators from maintaining strict adherence to course standards, nor does it in any way mitigate the instructor's responsibility to provide as safe a training environment as possible for every student.

> Note that this release is in addition to the one students complete when they enroll in online training. That release exists primarily as a backup in case students attempt diving on their own or diving at a level beyond their abilities before you have the opportunity to interact with them in person.

NASE recommends that, if possible, you have students physically sign the Liability Release and Assumption of Risk form before making any commitment of time, money or effort. In other words, do it before students sign up and pay for the course, not after. Doing so will help reduce the possibility that a student or his survivors will claim the release was signed under financial, emotional or other duress.

If students are under 18 years of age, the release form is to be signed by a custodial parent or legal guardian.

1.01.02.00 Medical Statement

The Medical Statement helps alert instructors that a particular student may need to obtain a physician's approval for diving before engaging in any in-water training activities. Students are to complete and sign either a printed or PDF version of the Medical Statement — preferably as far in advance of actual training as possible.

Students are to answer every question on the NASE Medical Statement by checking either Yes or No.

- If students answer No to all questions on the Medical Statement, they may — at their instructor's discretion — participate in training without seeking a physician's approval.
- If a student answers Yes to any question, however, he must get a physician's approval before the start of training.

Instructors may, if they choose, require any or all students to obtain a physician's approval prior to the start of training. An instructor may also refuse to accept any student for training, even if the student has been able to secure a physician signature on the Medical Statement.

Under no circumstances, however, is an instructor to train a student who has answered Yes to any question on the Medical Statement unless a physician's approval has been obtained.

If a physician's approval is required, the instructor is to supply the student with a copy of the Medical Statement and a copy of the Guidelines for Recreational Scuba Diver's Physical Examination to take to his doctor.

Students are to sign the Medical Statement form where indicated unless they are under 18 years of age, in which case the form is to be signed by a custodial parent or legal guardian.

If the student is a doctor, he may not sign his own Medical Statement as the approving physician.

1.01.03.00 Acknowledgment of Safe Diving Practices

As mentioned earlier, this form is to be completed and signed following training but prior to certification. If students are under 18, a custodial parent or legal guardian must sign as well.

1.02.00.00 Certification

1.02.01.00 Who May Certify NASE Divers?

Only NASE Worldwide Instructor members in good standing and in Teaching status may certify students under the NASE Worldwide sanctioned Scuba and/or Underwater course programs according to their level of training and authorization (see Member Standards).

> Members in good standing means dues-paid Instructor Member, currently insured under a NASE Worldwide authorized Scuba Instructor Liability Insurance program, and under no adverse actions or other sanctions taken by the NASE Worldwide Quality Assurance Board.

1.02.02.00 Processing Diver Level Certifications

The NASE eLearning and virtual student record keeping system automatically collects all of the personal and contact information needed for student registration and card processing. Prior to certification, the instructor is to log in and ensure that:

- Each student has provided all of the required information, including having uploaded an appropriate photo of himself.
- Students have met all of the criteria required by Standards to be certified at this level.

Once these requirements are met, the instructor certifies the student simply by clicking the appropriate button. This automatically generates a digital e-card. Plastic certification cards may be ordered separately, at an additional charge.

1.02.03.00 Leadership Level Applications

Students applying for various levels of NASE Divemaster, Assistant Instructor, Instructor, Specialty Instructor, and Instructor Trainer certification are to submit the appropriate leadership-level application for the rating sought (refer to individual course standards). The most current forms are available online and shall be completed in full and signed by the certifying Instructor or Instructor Trainer.

There is a space on each form for the applicant to provide credit or debit card information. The applicant will then be charged the registration fee appearing on the current NASE price list.

Applicants are to submit the application form and NASE Instructor and/or Member Agreements, as required by standards. The certifying instructor is responsible for maintaining copies of all other applicable student records, as listed below.

1.03.00.00 Student Records

NASE Instructors are to maintain the following records for each student:

- Liability Release and Assumption of Risk
- Medical Statement
- Acknowledgment of Safe Diving Practices and Release After Training
- Signed copies of each student's eLearning "Report Card," otherwise, all completed homework assignments, quiz and exam answer sheets, etc., if eLearning is not an option
- Copies of any prerequisite certifications and/or proof of experience, if applicable
- Additionally, depending on circumstances, instructor may also need to maintain:
- A copy of the applicable leadership-level application
- Student records are to be maintained as long as required by local statutes of limitation or standards of practice Under no circumstances, however, are student records to be maintained for less than five years

1.04.00.00 Non-Certification Forms

1.04.01.00 Lost Card Replacement Form

NASE Divers can use this form to:

- Replace lost certification cards
- Upgrade from Junior to Adult certification
- Effect legal name changes The form is self-explanatory and does not require an instructor signature

1.04.02.00 Incident Report Form

NASE Worldwide members who have witnessed or are involved in a diving accident have a responsibility to submit an Incident Report to NASE Worldwide headquarters no later than seven calendar days after the incident. However, it is important that the report is filed as soon as possible to minimize the loss of important information.

An accident is herein defined as a set of circumstances occurring while traveling to or from a confined or open water dive site, during setup or disassembly of equipment, or during an actual dive in which there is any form of personal injury or loss resulting from a diving activity. An incident

is herein defined as sets of circumstances in which there remains a potential for personal injury or loss of equipment claims.

> Filing the Incident Report Form with NASE Worldwide Headquarters does not replace the requirement to file an accident/injury report with your Professional Liability Insurance agent or legal representation.

All information requested on the Incident Report form must be provided to the best of the member's ability. Information concerning victim(s), witness(es), and circumstances surrounding the accident/incident should be collected from the individuals involved while at the dive site to avoid potential loss of important information. Diving professionals at the site must take the lead in gathering this information.

> If you are unsure that someone else is collecting the data, the best approach is to step forward whether involved in the accident/incident personally, as a witness, or merely as an observer.

1.04.03.00 Quality Assurance Report Form

NASE Worldwide members recognize the need to maintain a uniform teaching program that is recognized in the

industry as one of the highest in quality and discipline. Each professional member has both a unique opportunity and a responsibility to assist in maintaining this quality. This responsibility not only includes the way that the individual member conducts underwater training in adherence to these standards, but also extends an awareness of circumstances occurring around him.

> An instructor teaching a sub-standard program can affect the way our programs are perceived in a given area for months or even years to come. If a NASE Worldwide member witnesses a sub-standard program being taught by another NASE Worldwide Instructor in a deviation from these standards, or in a haphazard, careless, or unsafe manner, the circumstances and individual(s) involved must be reported to the NASE Worldwide Quality Assurance Board, via NASE Headquarters, in a sure and timely manner. The report shall be submitted in writing via a letter or e-mail. The best method for reporting Quality Assurance deviations is with the Quality Assurance Report Form.

Reports forwarded to the Quality Assurance Board will receive a quick and timely review with careful consideration. Reports are held in confidence, and individuals affected by the report are given every opportunity to provide mitigating information about the circumstances.

Quality Assurance Reports can result in the suspension or expulsion of another member. False reports should not be submitted capriciously or to gain competitive or political advantage. Purposely submitted false reports will result in Quality Assurance Board action taken against the submitting member.

1.04.04.00 Waiver Request Form

Professional members in Teaching status may occasionally encounter circumstances regarding individuals, equipment, or an environment that conflicts with standards set forth in the NASE Instructor Manual. There can be a good reason established for some deviation from the standards as written.

- Members should not deviate from established standards without being granted a waiver by NASE Headquarters in writing. To do otherwise is to risk invalidation of your professional liability insurance coverage.

- Members, with good reason, may submit a NASE Waiver Request Form to NASE Worldwide headquarters for consideration and approval. All requests that do not result in a safety issue, or a deviation from nationally or internationally established training standards, will be evaluated in a timely manner. Decisions made by NASE Worldwide Headquarters will be provided to the requester in writing upon completion of a thorough review.

Waivers are granted on an individual basis, not for a training location, and may be granted for a single occurrence, or for a period of up to one year. Upon expiration of a waiver, a new waiver request must be submitted to NASE Worldwide Headquarters for re-approval. Waiver Request forms must include all information requested about the applicant, the specific details of the waiver request, and the details based upon the member's best judgment as to why the waiver is needed. Submitting any and all supporting information is beneficial and will expedite the approval process. Supporting information that cannot be included on the Waiver Request form should be provided on an additional sheet of plain white paper and attached to the form.

2.00.00.00 Membership Status

NASE Worldwide members must pay their annual dues, be covered by a current NASE Worldwide headquarters approved Professional Scuba Liability Insurance policy, and in Teaching status in order to conduct NASE Worldwide sanctioned courses.

> Membership renewal cycle is January 1 to December 31, and all memberships will expire December 31 unless renewed. This status is without regard to when an individual's membership was initiated. In order to maintain an unbroken period of service and the occurrence of possible retraining requirements, membership renewal fees, signed membership agreements for the upcoming renewal cycle, and signed membership renewal applications must be received on or before the expiration date.

As a member-based organization, different levels of professional membership exist. These can be defined as

leadership levels of certification. Individuals must have one of these levels to apply for membership. Current levels include:

- Divemaster
- Assistant Instructor
- Instructor
- Specialty Instructor
- Master Instructor
- Instructor Trainer
- Regional Training Director

2.01.00.00 Definitions

2.01.01.00 Teaching Status

In order to be placed into, or to remain in Teaching status, NASE Worldwide Instructors and Assistant Instructors must meet the following requirements:

- Be a renewed, dues-paid member of NASE Worldwide within your renewal cycle
- Complete, sign, and date a current NASE Worldwide membership agreement
- Complete, sign, and date a current Membership Renewal Application
- Have proof of NASE Worldwide approved Professional Scuba Liability insurance coverage on file with NASE Worldwide headquarters. Instructors living or teaching only within those areas identified by NASE Worldwide as areas not requiring insurance coverage may have this requirement waived.

If an instructor was not renewed in Teaching status during the previous renewal cycle or did not become a new member

within the previous twelve months, he must do one or more of the following:

- Audited or assisted with an ITP
- Attended and/or completed an annual Member Update
- Attended a Specialty Workshop with a NASE Worldwide Instructor Trainer

2.01.02.00 Non-Teaching Status

Renewed, dues-paid, NASE Worldwide Instructors and certified assistants who have not met all the requirements to be placed in, or remain in, Teaching status will automatically be placed in Non-Teaching status. Instructors and certified assistants may not teach NASE Worldwide sanctioned courses, but they may assist NASE Worldwide Instructors in Teaching status as certified assistants and will continue to receive all membership benefits.

NASE Worldwide headquarters may place Instructors and certified assistants in Non-Teaching status for one or more of the following reasons:

- Failure to meet one or more of the conditions of Teaching status as given above

- Administrative reasons pertaining to Quality Assurance Board or pending Quality Assurance Board actions
- Request from the member to be placed in Non-Teaching status

2.01.03.00 Inactive Status

NASE Worldwide headquarters may place NASE Worldwide Instructors, Assistant Instructors, and Divemasters into Inactive status for the following reasons:

- Unpaid membership fees
- NASE Worldwide Quality Assurance Board places the Instructor, Assistant Instructor, or Divemaster for ethics violations or standards violations
- By the request of the member, Emeritus

2.01.04.00 Inactive Medical Status

NASE Worldwide members are personally responsible for assuring that they are in good health and physically fit for supervisory diving. NASE Worldwide expects that if temporary or permanent physical conditions exist where the member is unable to meet the physical standards necessary

for diving instruction and/or supervision, he will voluntarily remove himself from actively teaching or assisting in NASE Worldwide courses until he is again fully able to resume.

By granting a NASE Worldwide Instructor or Assistant Instructor Teaching status, NASE Worldwide retains the right to place that Instructor or Assistant Instructor into Inactive Medical status if it becomes aware of physical conditions that make him incapable of safely conducting dive training or supervisory activities. While in Inactive Medical status, the Instructor or Assistant Instructor is not authorized to teach, supervise or assist with NASE Worldwide sanctioned courses.

> Instructors and Assistant Instructors who are placed in Inactive Medical Status by NASE Worldwide headquarters will be required to obtain medical clearance from their physician prior to being returned to Teaching status.

NASE Worldwide Instructors and Assistant Instructors placed in Inactive Medical status will continue to receive all membership benefits.

2.01.05.00 Suspended Status

Members may be placed into Suspended Status as a result of a NASE Worldwide Quality Assurance Board decision based upon safety, quality or the well being of the general NASE Worldwide population. Decisions of the Quality Assurance Board may be based upon one or more of the following:

- Gross violation of standards
- Gross ethical violations
- Failure to complete retraining requirements as determined by the Quality Assurance Board
- Failure to issue student certifications if the students have met all certification requirements
- Financial irresponsibility toward NASE Worldwide.

Suspended members may not affiliate or represent themselves as being NASE Worldwide members. They may not teach or assist any NASE Worldwide courses and may not certify students at any level. Suspended members will not receive any NASE Worldwide materials except at the discretion of NASE Worldwide headquarters. Suspended members may not purchase NASE Worldwide training materials and will have their names published on the NASE Worldwide websites.

2.02.00.00 Reinstatement Procedures

NASE Worldwide Instructors, Assistant Instructors, and Divemasters placed into Inactive status or Suspended status may be reinstated to Active or Teaching status by completing all of the following:

- Pay current membership renewal fees
- Sign and date the current Membership Renewal Agreement and Membership Agreement
- Complete all remedial requirements as required by the NASE Worldwide Quality Assurance Board

If an Instructor member has been in Inactive Status or Suspended Status for twelve months or more, one of the following must be completed:

- Assist a NASE Worldwide Instructor with two complete Open Water Courses (courses must consist of a minimum of four students)
- Assist with or audit an ITP and pass the Instructor Exam (IE)
- Attend and/or complete an annual Member Update

- Attend a Specialty Workshop with a NASE Worldwide Instructor Trainer

Members who are Instructor Trainers at the time of being placed into Suspended Status by the Quality Assurance Board will only be reinstated to the level of Instructor. The reinstated member may submit an application to be returned to the Master Instructor level after maintaining one year in Teaching status. Master Instructors wishing to be re-qualified as Instructor Trainers may submit their request to the NASE Worldwide Quality Assurance Board for consideration.

3.00.00.00 General Membership Standards

All programs created for NASE Worldwide are established with consideration of the standards adopted by ANSI and ISO under the recommendations of the WRSTC to help with recognition by other major recreational scuba-training agencies.

Concurrent with the distribution and adoption of latest standards that create a common curriculum, renewed and dues paid NASE Worldwide Instructors in Teaching status will be free to teach NASE Worldwide programs.

3.01.00.00 Corporate Structure

NASE Worldwide consists of corporate officers and employees whose purpose is to provide the recreational diving community with leading and innovative training concepts and materials with an emphasis on diver and diving safety.

3.02.00.00 Mission Statement

NASE's mission is nothing less than to fundamentally change how people learn and dive, while increasing safety and enjoyment, and providing greater protection for the environment both above and below water.

3.03.00.00 Goals

As a world presence in the recreational scuba community, NASE Worldwide will:

- Be the educational company providing quality, convenience, and value worldwide
- Offer products and services that are environmentally responsible
- Focus on safety, building confidence, and ensuring the enjoyment of diving for all participants by using defined proficiency standards
- Provide members the cutting edge resources needed to profit through training divers
- Promote best business practices by our membership
- Enforce a code of conduct for its members to ensure the highest possible adherence to these standards and procedures

4.00.00.00 Dive Retail and Resort Network Standards

The standards listed here outline the NASE Worldwide Dive Retail and Resort Network to facilitate and support the worldwide growth of the organization.

The Diver/Retailer and Resort Network (DRRN) includes several levels of membership:

- Diver Development Center (DC)
- Diver Development Center/Instructor Training Facility (ITF)
- Regional Training Center (RTC)
- Dive Resort Affiliate (DRA) and NASE Resort ITF (DRA-ITF)
- NASE Educational (DEF) and NASE Educational ITF (DEF-ITF)

The cycle of DRRN NASE membership runs in conjunction with annual membership. Renewal fees and the affiliation agreements must be completed each year.

4.01.00.00 Dive Development Center (DDF)

The NASE Dive Center (Diver Development Facility) is a retail facility that offers sales and rental of diving equipment and diver training and certification through NASE Worldwide.

4.01.01.00 Prerequisites

- Be authorized to conduct business with state and local laws
- Be a dealer to the retail level of quality diving equipment and services
- Have a staff that looks appropriate to the role, knows the products sold, and use them in their training programs
- Provide equipment services including: gas fills, scuba equipment service, visual inspections and hydrostatic testing
- Have access to confined water and appropriate meeting location to conduct courses
- Have Active Teaching Status NASE Instructor on staff
- Offer NASE training equally to other agency training

- Provide equipment for diver training (rentals) that is modern and well maintained and serviced
- Display promotional materials for NASE in facility and on website

4.02.00.00 Instructor Training Facility (ITF)

The NASE Center (ITF Diver Development Facility-ITF) is an authorized NASE Center to organize Instructor Training Program (ITP), Instructor Specialty Program (ISP) and Instructor Crossover Program (ICP).

4.02.01.00 Prerequisites

- Be a NASE Dive Center for at least six months and meeting all of its prerequisites. In addition:
  - ☐ Have a Teaching status NASE Instructor Trainer on staff
  - ☐ Issue a minimum of 50 students (any level) per year for NASE training
  - ☐ Conduct a minimum of two ITP, ISP or ICP Instructor Updates year with classes consisting of a minimum of two instructor candidates

4.03.00.00 Regional Training Center

The NASE Regional Training Center (RTC) is an authorized NASE Regional Center that conducts Instructor Exam (IE) and assists with quality assurance in the region.

4.03.01.00 Prerequisites

- Be a NASE Dive Center for at least six months and meeting all of its prerequisites.
- Have a Teaching status NASE Regional Training Director and Instructor Trainer on staff

4.04.00.00 Dive Resort Affiliate (DRA)

The NASE Resort (Dive Resort Affiliate) Dive Centers are located at or near diving destinations and offer certification opportunities for NASE students.

4.04.01.00 Prerequisites

- Be authorized to conduct business with state and local laws
- Provide recreational diving instruction and guided dives
- Use appropriate vessels for divers, in compliance with applicable laws and equipped to carry out diving and snorkeling
- Be located in a resort with diving accommodations nearby
- Have extensive hours of operation
- Provide refills and equipment rentals to certified divers only or to students in training under the supervision of an instructor
- Have the staff of one or more NASE Instructors in Active Teaching Status

- Offer a full range of training programs for NASE
- Provide equipment for diver training (rentals) that is modern, well maintained, and serviced
- Display promotional materials for NASE in facility and on website
- Provide instructors, assistant instructors, or divemasters for supervision during all diving and snorkeling activities

4.05.00.00 Resort ITF (DRA-ITF)

The NASE ITF Resort (Dive Resort Affiliate-ITF) is a NASE Resort authorized to organize Instructor Training Program (ITP), Instructor Specialty Program (ISP), Instructor Crossover Program (ICP), Instructor Updates, and Instructor exams.

4.05.01.00 Prerequisites

- Be a NASE Resort for at least six months and meet all of its prerequisites. In addition:
  - ☐ Have a Teaching status NASE Instructor Trainer on staff
  - ☐ Issue a minimum of 50 students (any level) per year for NASE training
  - ☐ Conduct a minimum of two ITP, STI, or ICP Instructor Updates per year with classes consisting of a minimum of two instructor candidates

4.06.00.00 ITF: Alternative Location

In order to overcome the difficulties faced by NASE Instructor candidates located a considerable distance from a NASE ITF, it is possible to perform ITP courses in an alternative location. This procedure may be granted upon a reasoned request by trainers and ITP Staff. Complete the required application and submit to NASE headquarters, where it will be assessed and issued the relevant written permission.

4.07.00.00 NASE Dive Educational Facility (DEF)

The NASE Educational institutions are educational programs that lead to NASE diver training. Membership offers the NASE Educational Facility affiliated with some of the benefits of NASE Centers and Resorts.

4.07.01.00 Prerequisites

- Be a club or association that has a diving program
- Have NASE diver training inserted into the curriculum
- Have the staff of one or more NASE Instructors in Teaching status
- Actively promote NASE Educational Programs
- Display promotional materials for NASE in facility and on website

4.08.00.00 Dive Instructor Educational Facility (DEF-ITF)

The NASE Educational institutions are educational programs that lead to NASE Instructor training. Membership offers the NASE Educational Facility affiliated with some of the benefits of NASE Centers and Resorts.

4.08.01.00 Prerequisites

- Be a NASE Dive Educational Facility for six months
- Be a NASE Center for at least six months and meet all of its prerequisites In addition:
  - ☐ Have an active Teaching status NASE Instructor Trainer on staff
  - ☐ Issue a minimum of 50 NASE student certifications (any level) per year
  - ☐ Conduct a minimum of two ITP, STI or ICP Instructor Updates per year with classes consisting of a minimum of two instructor candidates

5.00.00.00 General Training Standards

The standards given in this section of the Standards and Procedures apply to all NASE Worldwide courses of instruction unless otherwise specified. NASE Worldwide members in active training status must follow these standards during all training activities sanctioned by NASE Worldwide when either training or supervising student divers of any level.

Additional standards and procedures may apply to individual courses. Refer to the specific standards for each training course for further information.

5.01.00.00 Policies Applying to all Training

- A Teaching status NASE Worldwide Instructor must be present and in control of all activities during any NASE certification course.
- All performance objectives in a NASE course are to be personally witnessed by an Teaching status NASE Instructor.
- Under no circumstances are student divers to be left unattended at any time during in-water training. This includes any confined water sessions or open water dives. Students are to be with a dive buddy and under direct or indirect instructor supervision during in-water training, as required by individual course standards.
- The maximum allowable student-to-instructor ratios for individual NASE courses are listed with each course's standards. Nevertheless, the maximum allowable student-to-instructor ratio in open water, for any NASE diver training course, is eight students for each instructor, regardless of the number of assistants used.
- Instructor-supervised NASE training dives are to remain within the limits of depth, time, and overall conditions

specified by the individual course standards. Under no circumstances, however, is a NASE Instructor to plan a training dive in conditions that are deeper, darker, colder, have less visibility or more adverse environmental conditions that what the instructor can document he has personally experienced and is comfortable with himself.

- Minimum age is to be reached by the beginning of the course.
- Prior to enrolling minors in a NASE diver course, the parents or legal guardians of minor students are to read and sign the NASE Parental Responsibility for Minor Divers form.
- Review guide for NASE eLearning must be printed and signed by student and parent or guardian. If student is not using the NASE eLearning, exams for students under 18 require indirect supervision for administration and require student and parent or guardian signatures.
- The parent(s) or guardian(s) of minor students must agree to restrictions placed on that level of training. See individual course standards.

- Student registration must be processed without unnecessary delay once the certifying instructor has ensured each student has met the minimum requirements for certification.
- NASE Worldwide materials are to be used for all courses for which they are available.
- Upon completion of each dive required for certification, the instructor is to review and sign student logbook.

5.02.00.00 Definitions of Key Terms

5.02.01.00 Certified Assistant

A certified assistant is an individual who has successfully completed and is in Teaching status as a NASE Worldwide Divemaster or Assistant Instructor and Non-Teaching status Instructor — providing they all have current professional liability insurance, where required. Certified assistants may be used by the Instructor to increase student-to-instructor ratios for confined water or open water training sessions according to the individual standards for the specific course. See specific course training standards.

5.02.02.00 Direct and Immediate Supervision

Standards for many NASE diver training courses require that students be under the direct and immediate supervision of a Teaching- or Active-status NASE Instructor, Assistant Instructor or Divemaster. These include introductory scuba experiences, entry-level certification courses and portions of Advanced and Specialty Diver courses.

Situations that call for direct and immediate supervision require that both instructors and assistants, and the students themselves, have certain responsibilities. These include:

Leadership Responsibilities

When standards call for immediate supervision, instructors and assistants have the following responsibilities:

- Provide an overall level of control and supervision consistent with what a reasonable and prudent dive professional would do under similar circumstances
- Not knowingly allow a student to leave the immediate area, nor knowingly leave a student unattended
- Not engage in any activity that might interfere or distract from their ability to provide adequate control and supervision
- Adjust student/instructor ratios downward to compensate for adverse environmental conditions or diminished visibility. The maximum allowable student/instructor ratio for any dive requiring immediate supervision is eight to one, regardless of whether or not certified assistants are

used. In most instances, a ratio of four to one, or less, is prudent.

- Ensure that students are fully aware of their responsibilities in such situations, and of the risks and hazards that may still remain despite being under immediate supervision

Skill evaluations: A Teaching status NASE Instructor is to personally evaluate student performance of all skills required for certification. This responsibility cannot be met by certified assistants.

Underwater videography: Students can benefit greatly by seeing video footage of themselves performing skills. Unfortunately, acquiring such footage has the potential to distract instructors from their primary task of providing adequate control and supervision. Therefore, if an instructor wishes to acquire such footage, he should:

- Limit this activity to confined water
- Designate an assistant to be responsible for acquiring such footage and make it clear that shooting this footage is this person's sole responsibility
- Use a helmet- or mask-frame-mounted camera that can be operated without taking eyes off students

Student Responsibilities

Even in situations that allow for maximum control and supervision, it is unrealistic to expect that instructors can maintain eyes-on contact with every student 100 percent of the time. It is unrealistic, for example, to expect instructors to both lead a dive and keep students in sight at all times.

Additionally, while having certified assistants is ideal, it is unrealistic to expect that instructors will always have qualified assistants at their disposal. In fact, in most instances, certified assistants simply aren't available. For this reason, NASE does not require entry-level instructors to conduct any open water skills, such as Emergency Swimming Ascents, that would require the instructor to leave students unattended at the surface or under water.

Despite this, it is important for students to understand that the person responsible for them will not be able to maintain eyes-on contact with them at all times. Whether it is an instructor or assistant, that person may also need to be able to:

- Lead a dive
- Conduct a skill assessment for another student
- Respond to another individual who is having a problem

For this reason, it's important that students understand that they, too, have responsibilities in situations that require immediate leadership supervision. These responsibilities include:

- Keeping the dive leader in sight at all times
- Remaining close enough to the dive leader so that, if a student encounters a problem, he can immediately gain the instructor or assistant's attention and get help in solving the problem
- Not knowingly leave the immediate vicinity of the instructor — even if they have a buddy who is failing to meet this responsibility
- Not participating in any dive that entails environmental conditions with which they are not comfortable, or a skill they are not confident they can do.

Students need to understand that it is they, and not the instructor or assistant, who is chiefly responsible for maintaining group cohesion. If a student becomes separated from the group, either knowingly or through carelessness, the student needs to understand that the instructor's or

assistant's first responsibility is to the remainder of the group, as they were the ones who followed directions.

In situations in which students become separated from the group, the instructor's first responsibility is to keep the balance of the group together and to get them to the surface safely. Only when the safety of the group is ensured can the instructor go looking for the missing diver.

5.02.03.00 Indirect Supervision

Indirect Supervision requires the certifying instructor to prepare to lend assistance and enter the water if necessary. The Instructor is not required to personally observe and direct all in-water student-training activities. The maximum allowable student/instructor ratio for any dive requiring indirect instructor supervision is eight to one, with an additional four students per certified assistant, up to a maximum of twelve.

For confined water or open water activities, the certifying instructor must be present at the dive site, oversee and approve the activities, briefings, preparations, equipment assembly and inspection, entries, and exits. The instructor must be at the dive site and prepared to enter the water

while students are in the water. For academic classroom activities, the certifying instructor must be in the area and ready to take control of the classroom when necessary.

5.02.04.00 Confined Water

Confined water is any body of water that provides similar conditions to a swimming pool and is used to introduce diving skills. Conditions should include good visibility, calmness (free of surf and current) and adequate water depth to perform the required skills.

5.02.05.00 Open Water Dive Site

An open water dive site is defined as any body of water with a minimum depth of 5 m/15 ft and approximates entry level diving conditions of the local area. Pools of any depth cannot be considered as an open water dive.

> With the exception of Cave, Cavern, Ice, and Wreck Diver courses, no open water training dives are to be conducted in, or within diver access to caves, caverns, under ice, inside wrecks, or in any situation where direct access to the surface is not possible at all times.

The dive site must be chosen with safety in mind. Moderate to high surf conditions or currents present wherein the instructor cannot maintain direct contact with all students are not allowed. Visibility conditions must be present that allow the instructor to see and maintain physical contact with all students in the water.

5.02.06.00 Teaching Confined and Open Water at the Same Site

There are a small number of dive sites that lend themselves to teaching both confined water and open water dives. An example of such a site would be certain freshwater springs. These sites will have areas that offer swimming pool like depths and conditions, as well as areas that provide greater depths and conditions more typical of open water. It is acceptable to conduct both confined and open water training at such sites, as long as the following conditions are met:

- Only one type of activity may take place on any given dive. It counts either as a confined water session or an open water dive; never both.
- Put another way, you cannot have students meeting open water dive requirements on the same dive as students

performing confined water skills. (Nor can you have Advanced or Specialty students doing skills that require direct instructor supervision in the water at the same time as you do Open Water Diver students.)

- While you can use the same overall dive site and the same entry and exit point for both confined and open water dives, you must use different locations within the site for each. In other words, you cannot go to one shallow location for confined water skill development and practice, then later return to the exact same spot for open water skill application.

Bottom Time

This is defined as the time a diver spends underwater while using scuba. Time begins as diver submerges and continues until diver surfaces.

5.02.07.00 Skill Competency

Skill competency is a combination of related knowledge, skills, and attitudes that leads to successful participation in scuba diving and is measured against well-accepted standards and is improved through training and experience.

NASE Worldwide further defines competency as the ability to meet the stated performance objective:

- When asked
- Repeatedly
- Without significant error
- Without undue stress
- While maintaining neutral buoyancy

5.02.08.00 Disabilities

A disability is defined as any physical or mental impairment that obstructs or interferes with a student's ability to learn or perform the skills required during the course of training. Disabilities may range from complete inability to engage in in-water activities to minor challenges that can be overcome by the student and instructor with adaptive techniques.

> Prospective students with disabilities must obtain approval from a licensed physician before engaging in any aspect of NASE Worldwide sanctioned courses. However, the certifying instructor has the authority to decide who will enter the course.

Individuals with disabilities must satisfactorily complete all aspects of the required training before becoming certified.

5.02.09.00 Open Water Dives

Open water training dives for recreational-level NASE Worldwide diver courses must meet the following requirements:

- To count as an open water training dive, a dive must be one in which students accrue at least 15 minutes of Actual Bottom Time (ABT) or consume the equivalent of at least 1,400 liters/50 ft^3 of breathing gas.
- The minimum depth for an open water training dive is 5 m/15 ft.
- The maximum depth for recreational open water training dives is 40 m/130 ft.
- All dives must be planned to keep students well within the no-decompression limits.
- The minimum time between dives is ten minutes.
- With the exception of Cavern, Cave, Wreck, and Ice Diver courses, students must always have direct access to the surface.
- With the exception of Advanced Open Water and Night Diver course night dives, and dives made during any

level of Cave Diver training, dives are to begin at least 30 minutes after sunrise and end 30 minutes before sunset.

- All training dives conducted above 300 m/1,000 ft must follow altitude diving procedures.
- All training dives must include the following activities:
  - ☐ Briefing
  - ☐ Preparation to dive
  - ☐ Entry into water
  - ☐ Descent procedures
  - ☐ Underwater activity
  - ☐ Ascent and surfacing procedures
  - ☐ Exit from water
  - ☐ Debriefing
  - ☐ Post dive procedures
  - ☐ Recording the dive (log)

5.03.00.00 Required Materials

Instructors must have and use the latest version of the NASE Instructor Manual for all NASE courses. The best way to ensure this is to download a copy of the Instructor Manual from the NASE Pro site, making sure that it supersedes any versions you may have on hand.

Both students and instructors are to have and use any and all NASE student materials that are available for the courses they are taking or teaching.

5.04.00.00 Required Equipment

Each student, instructor and certified assistant engaged in the open water portion of any NASE Worldwide sanctioned course of underwater instruction must be equipped with the following personal equipment:

- An exposure suit for thermal and environmental protection that is adequate for the needs of each individual at the specific dive site
- An open-ciruit* scuba unit consisting of a minimum of the following:
  - ☐ Scuba cylinder for compressed gases with sufficient volume for planned dive
  - ☐ First and second stage regulator complete with alternate second stage (octopus)
  - ☐ BC with a low-pressure inflator
  - ☐ Submersible pressure gauge
  - ☐ Depth gauge or dive computer

*Use of rebreathers by instructors or certified assistants is prhobited unless conducting a NASE-sanctioned SCR or CCR course.

- Mask, snorkel and fins

- Weight system and weights, as required
- Dive watch, dive computer, or other timing device
  - A dive computer is strongly encouraged for all NASE training. Nevertheless, any student who does not have a personal dive computer is to have his own depth gauge, timer, and dive tables.
  - If entry-level students will not be receiving instruction in dive table use, each student is to have his own personal dive computer on all open water training dives.
- A means of logging dives, either written or digital

Instructors and certified assistants must also have a knife or other cutting device, as allowed by law. Be aware that local standards of practice may also dictate that instructors and assistants carry:

- Underwater compasses
- Audible and/or visible signaling devices

Dive flags must be present at all dive sites where they are required by law. It is a good practice to use a dive float with a flag at all underwater training areas for surface support during open water activities.

Certain continuing education courses may require additional equipment in order to meet the stated skill-performance objectives. For example, it will be impossible for students to meet the compass navigation requirements for the Advanced Open Water Diver course unless they have underwater compasses; students in the Digital Imaging courses are going to need to have cameras. This is just common sense.

5.05.00.00 Course Criteria

5.05.01.00 General

In the NASE competency-based training, each course generally has minimum defined minutes of Actual Bottom Time (ABT) as opposed to a minimum number of dives. While each course will outline the required skills to be performed, it is up to the certifying instructor to ensure a student has demonstrated competency for each skill. To achieve a level of training, competency is required for all required skills.

- Unless modified by the individual course standard, no more than three open water training dives are to be conducted on a given day.
- Students enrolled in advanced courses above the Open Water Diver certification level may, at the instructor's discretion, dive recreationally after all training dives have been satisfactorily completed. This does not modify or remove individual responsibility of the involved divers to carefully observe all depth, time, and surface interval requirements for conducting multiple dives.

- Except as noted in individual course standards, all open water training dives must be conducted during daylight hours.

All training dives must contain the following:

- A briefing
- Equipment assembly
- An entry
- Training activity/Tour
- An exit
- Debriefing
- Equipment disassembly
- Logging the dives in the student's personal logbook

5.06.00.00 Student to Instructor Ratios

- The ratio for Open Water training dives is eight students per instructor. These ratios may be modified for experience dives and advanced training dives as given in each particular course outline. (See individual course standards.)
- The ratio for Confined Water training is 12 students per instructor, 14 if using a certified assistant. See specific course standards, such as those for the Open Water Diver course, for specific ratios that may apply to individual courses.

6.00.00.00 Ethics Requirements

Our ethics define who we are and how we relate to those around us. As professional scuba diving leaders, we are responsible for maintaining the highest of ethical standards in our relationships with each other, our students and customers, and our Training Agency. The following set of standards is not defined as an upper limit of ethical behavior but is used to assist us in recognizing and meeting the minimum levels of this responsibility to the diving community worldwide.

6.01.00.00 Ethics Standards

NASE Worldwide members must adhere to the following set of ethics:

- Comply with all standards and procedures in both form and intent as given in the NASE Worldwide Instructor Manual and training updates while conducting any and all NASE Worldwide courses and training programs
- Promote and personally uphold the principles of safe diving as given in the NASE Worldwide Acknowledgment of Safe Diving Practices whether acting in a leadership role or not
- Not represent themselves as being capable to issue NASE Worldwide certifications unless they are currently in Teaching status, physically fit to dive, and in compliance with these standards
- Individuals not in Teaching status, whether members, former members, or nonmembers, who knowingly and wrongfully: accept money from potential students, conduct courses represented as being NASE Worldwide courses, issue certification cards (temporary or otherwise), allow students from courses that they conduct to be certified

through another instructor, or certify students that they have not trained, may be faced with legal action by NASE Worldwide

- Refrain from making derogatory or defamatory remarks concerning NASE Worldwide, its representatives, NASE Worldwide members, or others in the recreational scuba diving industry
- Maintain the highest of financial responsibility and professionalism in dealings with students, customers, and NASE Worldwide
- Returned checks made payable to NASE Worldwide, or credit card “charge backs” not authorized by NASE Worldwide, constitute financial “irresponsibility” and may incur disciplinary action by the NASE Worldwide Quality Assurance Board
- Financial disputes with a student or former student are not grounds for withholding certification with the exception that certification can be withheld for nonpayment of fees directly related to the certification
- Be honest in your dealings

- Cooperate fully with all official investigations conducted by NASE Worldwide, the NASE Worldwide Quality Assurance Board, or Professional Scuba Liability Insurance investigators. Required responses must be given fully and within the time period required.

7.00.00.00 Quality Assurance

Quality Assurance is every member's responsibility. The quality of our training affects our students by the kind of underwater training that they receive, our instructors and assistant instructors by their pride and how they feel about themselves, and our training agency by how the world perceives the training that we provide. Quality, then, is the very essence of who we are as worldwide professional scuba educators.

7.01.00.00 Every Member a Professional

NASE Worldwide has the responsibility of providing its members with training, training programs, and training materials that rival or are better than the best. However good the material and the instructor training are, the quality of training that the student receives depends upon the instructor.

Professionals care about how their jobs are performed and how their colleagues' jobs are performed. That is why we have named our Quality Assurance program Every Member a Professional.

7.02.00.00 How is Quality Assured?

Instructors are the front line in quality assurance. We must assure that the instructors we train are motivated individuals who love diving, are self-monitoring, like people and are well trained.

The NASE Worldwide approach to assuring quality is divided into three major categories:

- Ensuring that our instructors receive quality training and are up to date on current standards and procedures
- Providing quality up-to-date training materials
- The Quality Assurance Program

7.03.00.00 Instructor Updates

- Instructors must attend and/or complete a biennial (every two years) training update to remain in Teaching status. These are conducted by Headquarters staff or Regional Training Director or are available online from NASE Headquarters.
- Instructor Trainers must attend a biennial (every two years) IT Workshop to remain in IT status. These are conducted by Headquarters staff or Regional Training Director or are available online from NASE Headquarters.
- Regional Training Directors must attend all conferences. These are held online and once a year at a predetermined location.

7.04.00.00 Training Materials

NASE Worldwide keeps its training materials up to date with respect to safe diving practices and methods for teaching scuba diving. The use of eLearning helps ensure that students and instructors always have access to the latest information.

7.05.00.00 Quality Assurance Program

Quality Assurance management is best brought about by each member's adherence to the principles that bring quality to underwater training programs.

- By agreeing to the annual membership agreement via signature, NASE Worldwide Instructors, Instructor Trainers, Divemasters, and Assistant Instructors assume an obligation to maintain strict adherence to these standards and procedures by keeping themselves physically and mentally fit to fulfill their roles as scuba educators and dive leaders. Included in this obligation is a responsibility to use the Quality Assurance Report form to report any personally witnessed gross violations of standards or training procedures by NASE Worldwide members to the NASE Worldwide Quality Assurance Board.
- The Quality Assurance Board will respond as quickly and fairly as possible to all Quality Assurance Reports submitted to NASE Worldwide headquarters. Reports received in this manner will be held in as strict a confidence as is possible.

- From time to time, NASE will survey students who have completed NASE training to ensure quality of its materials and adherence to NASE guidelines.

The following standards must be followed to assure the fidelity of the Quality Assurance Reporting system:

- The Quality Assurance Board will not respond to hearsay in the form of second or third party reports.
- Quality Assurance Reports must be submitted in writing.
- False or capricious reports are a violation of standards and may result in Quality Assurance Board action against the reporting party.
- Reports made to gain political or competitive advantage are a violation of standards and may result in Quality Assurance Board action taken against the reporting party.

7.05.01.00 Quality Assurance Board Review Process

The Quality Assurance Board is responsible for reviewing and addressing all Quality Assurance Reports and student surveys that indicate or allege an ethics or standards violation. The process for all reviews is as follows:

- NASE receives a Quality Assurance Report or student survey that indicates or alleges an ethics or standards violation
- A designated member of the Quality Assurance Board will prepare and send a written notification to the member in question, informing him that a complaint has been filed against him and providing a detailed explanation of the possible violation
- The member will have ten (10) days to respond in writing to the allegations
- The designated member of the Quality Assurance Board will contact the individual who submitted the Quality Assurance Report or the student who completed the survey, as well as any witnesses listed, to obtain additional information related to the alleged violation
- The designated member of the Quality Assurance Board will compile all information regarding the alleged violation, including but not limited to the Quality Assurance Report, student surveys and information obtained through interviews, prepare a written recommendation for a disciplinary course of action, and distribute the package to all members of the Quality Assurance Board

- The Quality Assurance Board will have five (5) days to review the materials; the board will meet via telephone conference to approve, revise or reject the recommended course of action; this process will continue until the board unanimously approves of a disciplinary course of action
- Once a disciplinary course of action has been agreed upon by the board, the designated member of the Quality Assurance Board will prepare and convey a Disciplinary Course of Action letter to the member, informing them of the board's decision
- The possible Disciplinary Course of Actions include:
  - ☐ No action required: Information insufficient, allegations unfounded or no violation
  - ☐ Member placed in Inactive Status for six months
  - ☐ Member placed in Suspended Status for twelve months
  - ☐ Member Expulsion
- The member will have ten days to review and respond to the Disciplinary Course of Action letter; the member can
  - ☐ Accept the board's findings by signing and returning the acknowledgment included with the Disciplinary Course of Action letter
  - ☐ Request an appeal

- The appeal will be conducted in the same manner as the initial investigation following the same process and deadlines
- NASE will place the member on Temporary Inactive status until the appeal is resolved; if the findings of the board are upheld, the time spent in Temporary Inactive status will be counted toward the overall time the member spends in Inactive or Suspended status
- At the end of the designated time period, the member can apply for reinstatement as per standards

7.06.00.00 Legal Risk Management

Risk management techniques provide our instructor members with the tools necessary to minimize unnecessary exposure to unwarranted or unnecessary legal actions. They also help in the recognition of potential problems that can be corrected before a problem happens.

- The primary function of risk management is prevention. Sometimes, no matter how careful we are, circumstances are set in motion that result in an unfortunate scuba accident. Students, former students, and their families may seek legal remedies to recover their loss. This can, and usually does, include everyone involved in their scuba training.
- The first step of risk management is to make yourself aware of your legal responsibilities to your students, to yourself, and to your training agency. By understanding thoroughly your responsibilities, you can take the necessary steps to assure that your responsibilities are fulfilled and head off any potential problems long before they happen.

- Certain recognized hazards are an intrinsic part of the sport of scuba diving. When you as a scuba instructor accept a student into one of your classes, a contractual relationship is formed. You agree to provide the student with training, and the student agrees to provide you with a fee for that training. In addition to the obvious contract, an implied contract is also formed. Because you are the expert, and there are inherent hazards present in the training, you contract with the student to apply reasonable and prudent care in protecting the student from those hazards. Part of that care involves fully informing the student as to the nature of the hazards involved so that he can make an informed decision about whether or not to risk the exposure.

- Actual neglect may occur if the instructor fails to take reasonable and prudent action in protecting the student from the known hazards present and an actual accident occurs. The benchmark that the courts use to measure the conduct is a fictional “reasonably prudent person.” In a similar situation, what would a “reasonably prudent person” do? Extended to the scuba instructor, the court may ask, “what would a reasonably prudent scuba instructor do?”

If an accident does occur, you may be required in a court of law to prove that you did provide reasonable care.

7.07.00.00 Standards

Training standards fill an important role in the management of risk. NASE Worldwide standards conform to nationally and internationally recognized diving principles and procedures. Standards conforming to industry wide practices help to establish the set of actions in a scuba-training environment that a reasonably prudent scuba instructor would take in the execution of his duties to the scuba student. By strictly following training standards, the instructor's behavior and fulfillment of duty to the student is inherently more defensible in court than an instructor who deviates from standards or devises his own training system.

7.08.00.00 Documentation

Documentation provides the “paper trail” showing the path that the diving instructor took in providing the contracted instruction, how well standards were followed, and how informed the student was regarding inherent risk. In most courts of law, documentation in the form of student forms, logbooks, and student files are adequate proof.

- Student and instructor log books signed and dated with the appropriate entries document the training dives that were conducted, and the dates that they were conducted, with bottom times and depths, surface intervals, and water conditions. This can all be valuable information showing evidence of the manner in which open water training was given.
- Medical Statement forms, signed and dated by the student or guardian, or a physician if required, gives ample warning to the student that existing or potential medical conditions may increase the risks that he will be exposed to during underwater training. The Medical Statement form also warns the student of mitigating circumstances related to

health or fitness that may enhance the potential dangers in the underwater environment.

- The Liability Release and Assumption of Risk establishes and confirms that the student has been informed of the risks inherent to scuba diving, that the student acknowledges those risks, and assumes the risk releasing the instructor from liability.

  Important: the Liability Release and Assumption of Risk form does not release the instructor from applying reasonable and prudent care in protecting the student from those risks. Remember that you are the expert!

- The Acknowledgment of Safe Diving Practices and Release After Training documents that the student has been informed of safe diving practices and habits necessary to enhance the safety and quality of his diving. The Release After Training section of the form reiterates to the student the inherent risks of diving, the student acknowledges and assumes that risk, and releases the instructor and diving facility from liability pursuant to the student's own diving. This form is only effective if used as intended.

Important: As with the Liability Release and Assumption of Risk form, this does not release the instructor or dive center from actual negligence. You must take care in following prescribed standards, and ensuring that the student receives the best training available. Only when the student is well taught, understands the principles of safe diving, and has learned his lesson well, can the instructor feel reasonably released from liability.

- Documentation of Academic Learning: This can be in the form of the eLearning student training record, or in the form of a written exam answer sheet, similarly initialed and signed by the student. To be useful for documenting that students have mastered all required learning objectives, these items need to demonstrate 100 percent comprehension of the required material. There is no “passing score” for these assessments; students must acknowledge the fact they completely understand the correct answers to any questions missed.

- In addition to the student, a parent or guardian must sign the exams of all students under the age of 18.

7.09.00.00 Liability Insurance

All NASE Worldwide Instructors in training status are required to have industry standard, agency recognized, Professional Scuba Liability Insurance coverage, and if your insurance is not NASE Worldwide sponsored you must list NASE Worldwide as an additional insured.

- If you, in your capacity as a scuba instructor, are named in a civil liability suit by a student or former student, you may be required to pay the student's losses, damages, lost income, future earnings, court costs, legal fees, etc., if found by the courts to be responsible, or partially responsible. These costs can be considerable. When covered by a Professional Scuba Liability Insurance policy, the insurance company is required to defend you in a court of law and pay all costs and judgments up to the coverage limits. Your liability insurance coverage is another part of your legal risk management program.
- All professional members of NASE Worldwide who are engaged in student certification activities should have liability insurance coverage as a part of their risk management program. Even though Assistant Instructors,

Divemasters, and Instructors in Non-Teaching status are not required to have liability coverage, if they are engaged as certified assistants, they should. The fact remains that because of their current or past activities in the instructional process they can be named as a correspondent in a civil liability action and may be found by the courts to have partial or full responsibility for losses.

- With liability insurance coverage comes yet another inherent responsibility for the scuba instructor: the responsibility to minimize legal risk for yourself, your training agency, and your insurance company.

7.10.00.00 Legal Risk Management Summary

Follow these steps to manage your exposure to legal risk:

- Use the NASE Worldwide training materials and training system in all of your courses. Providing a quality form of instruction to your students can prevent problems, and prevention is the best form of risk management.
- Strictly follow the NASE Worldwide standards as given. Deviation may expose your students to greater risk and you to greater legal risk.
- Use all the risk management forms listed below and ensure that your students have completed them fully and signed and dated them. Keep them together in the Student Training Record folder. Students must be required to complete and sign these forms for every course. These forms are:
  - ☐ Liability Release and Assumption of Risk form
  - ☐ Medical Statement and Physicians Approval for Diving (if required)
  - ☐ Acknowledgment of Safe Diving Practices and Release After Training

- Make sure all student quizzes, exams and eLearning Student Records have the students' initials by the questions that they have missed. Don't change the wording of these forms or allow your students to change the wording to accommodate the individual student's concerns. Changes may invalidate any protection that the form offers.
- Consult a legal expert in your local area to gain additional information as to the things that local law may require in addition to those presented here.
- Use your best judgment when evaluating a student's suitability for enrollment in your course in the areas of health, fitness, and maturity. Remember that it is your course that you are teaching.
- Evaluate conditions at the dive-training site before committing students to the water. Under marginal conditions, be conservative and err on the safe side. It may be best to reduce ratios, change to another site, or delay to another day if conditions are not the best.

7.11.00.00 Incident Report

Sometimes the very best planning and steps to prevention cannot prevent an accident. What you do after an accident happens can be as important to Risk Management as what you do before. You must be trained and prepared to provide quick and competent assistance at the accident scene.
Your first responsibility is to provide necessary first aid and to activate the emergency response system. If suspected decompression illness is involved, contact Diver's Alert Network (DAN) or other diving emergency services.

Steps must be taken to document the circumstances surrounding the accident or incident, whether you are involved in the accident or just a witness. Use the Scuba Diving Accident/Incident Report Form to report this information to NASE Worldwide headquarters. This information should also be given immediately to your liability insurance agent. Depending on the incident, they may require you to contact their legal representation directly.

Local authorities may also be at the accident scene taking information. It is your responsibility, and in your best interest,

to cooperate fully with their inquiries. There are some things that you need to be aware of:

- Don't disassemble the victim's scuba equipment. A third party will need to assess whether or not it is in working order. Local authorities may request that it be placed their possession.
- Even though you feel responsible and want to empathize with the victim, be careful not to admit fault. It actually may not be your fault, but it is difficult to retract statements that may have been made while distressed.
- When cooperating with local authorities, state only the factual information surrounding the accident. Don't speculate or offer opinions.
- You are not obligated to give information to the news media, friends, or family members even if you feel that you should. It is recommended that you don't.
- Use the Scuba Diving Accident/Incident Report form to guide you in the type of information that you must collect at the scene, and forward the report in a timely manner to NASE Worldwide headquarters. (See Administrative Standards Non-Certifying Forms and Procedures.)

8.00.00.00 Knowledge Development for All NASE Courses

Knowledge development in NASE courses takes place primarily through self study, using the NASE eLearning program. Nevertheless, it is the instructor's responsibility to ensure students demonstrate mastery of all required learning objectives.

In this section, we discuss five separate topics:

- The Role of Self-Study in Diver Training
- Using NASE eLearning Programs
- When eLearning is Not an Option
- Teaching Dive Tables
- Teaching the Six Rules

Here are some points to keep in mind as you use this guide to plan the knowledge development portion of any NASE course:

- As the greatest percentage of NASE students are those taking part in the Open Water Course, many of the examples in this guide refer specifically to that program.

However, the principles discussed apply to all NASE courses.

- Any information specific to the knowledge development of a particular course is contained in the first section of the respective instructor guide.

Important: The academic portion of any NASE course is to be completed, in its entirety, prior to any in-water training. This way, should a student injure himself, he cannot argue that, “It wouldn’t have happened had we only covered this information in class.”

8.01.00.00 The Role of Self-Study in Diver Training

Of all of the resources diving educators must manage, none is more precious than time. The problem with time is that our students don't give us enough of it. If you teach for a university or government agency, consider yourself lucky. You most likely have up to a semester to conduct a complete scuba program. Time is probably not an issue for you.

> Most of us, however, aren't so fortunate. In fact, it is likely that today the most common format for the academic and confined water portion of a beginning scuba course is a single-weekend program conducted over a Friday evening, Saturday, and Sunday. Classes taught in resort settings tend to follow similarly compressed time frames.

This is not because diving educators have become callous and are seeking to cut corners. It's because this is all the time most students are able to give us. If you are not willing to offer such accelerated courses, students will simply go elsewhere — whether to another local competitor or a dive

resort somewhere else (or another dive operation if you teach in a resort setting).

> For example, in the case of Open Water Diver courses, two and a half days (or less) is not a lot of time to cover academics and skill development. You have, at most, 16 to 20 contact hours with students. Of this, you may spend the majority of time not only in the water, but trying on, transporting, and setting up equipment. The time remaining for academic learning is minimal.

It is impossible to thoroughly teach and review all of the academic knowledge needed for entry-level diver certification (or any other course) in such a compressed time frame.

The only way effective learning can take place under such circumstances is through self-study. In other words, students must be able to master all of the academic learning objectives before the first class meeting takes place. All you can hope to do in the short span of time available to you in the classroom is to act as the final guarantee that learning has, in fact, taken place.

8.01.01.00 "But they never do the homework…"

From time to time, we have instructors tell us that "self-study doesn't work," despite the fact self-study appears to work just fine for the military, major corporations, and an increasing number of online colleges and universities. Their evidence of this position is that, "students never complete the homework."

> If your students are consistently failing to complete all of the necessary self-study requirements prior to class, the problem may not be as simple as the students are not doing their homework. It could be that you are not doing yours.

Traditionally, most diving educators would have little or no contact with their students until the first class session. Today, if you wait until the first class meeting to engage your students in an ongoing dialog, it's too late.

If you want to ensure that all of your students show up for class fully prepared, you need to make sure they understand and agree to do what you ask of them, and you need to monitor their progress throughout the self-study process.

8.01.02.00 It Starts With a Clear Understanding and Agreement

Many instructors believe that because the requirements for earning a scuba certification at any level are listed on their website or in a handout, students will both read and follow these directions. This is not realistic.

> The fact of the matter is that you can create an environment in which students consistently do what you ask of them. To do so, however, you need to establish an orientation process that ensures that you have an opportunity to explain all of the requirements for a scuba course clearly to each student. Then you need to get them to make a formal commitment to meet these requirements.

8.01.03.00 Creating an Orientation Process

Over the years, we've seen many different, yet equally effective, ways to conduct a pre-class orientation. These include:

- Having a formal orientation meeting that takes place a week or more prior to the start of the course in which all of the requirements for earning a certification are explained,

including the equipment students must purchase prior to class

- A checklist of points store personnel must review with students at the start of the sign-up process
- An orientation video prospective students watch that covers all of the necessary information

The latter method is becoming increasingly popular as more and more students sign up over the Internet and may not have any face-to-face contact with the instructor or training staff until the first class meeting. This is common when students are learning in a resort setting or taking part in online training.

> Whichever method you choose, make certain you have a formal orientation process and that no one is allowed to enroll in the class unless he has gone through it.

Also, orientation is arguably one of the best times to have students complete the waiver/release form if they have not done so already and to hand out the Medical History form.

- If possible, have students sign the waiver/release form before they make any financial commitment. The longer

you wait, the more you are like the dive boat captain who waits until he arrives at the dive site to have passengers fill out waiver forms. At this point, the waivers may not hold up in court, as passengers could claim they'd already spent money and time and, thus, were under financial and other duress when they signed.

- In a group class, it is rare to not have at least one student who requires a physician's approval to dive. The sooner you identify these students, the easier it will be for them to schedule an appointment to see their physicians prior to the beginning of in-water training.

8.01.04.00 Learning Agreement

Contract law is based on two principles: understanding and agreement. While your orientation should take care of the understanding part, you need to have an agreement, in writing, testifying to the fact the student not only fully understands your requirements, but agrees to them and is willing to accept the consequences of not fulfilling his end of the bargain. Whatever you use as a learning agreement, it should cover a variety of topics including:

- Steps required for certification
- Instructor and student responsibilities
- Specific self-study requirements
- Required equipment
- All costs, including what is and is not included
- What students must do to earn a scuba certification

Learning Agreements can do a lot to prevent potential misunderstandings and disagreements between you and your students. The agreements ensure that your students have not only seen and/or heard your orientation, but they also understand and agree with what is being said.

8.01.05.00 The Second Part of the Equation

While providing students with a clear understanding of what is required of them is an important start, it is not the complete solution. To fully ensure students arrive for class prepared, you must engage them in an ongoing dialog about the material you have provided and the assignment you have given them. If you don't, you risk them getting sidetracked or losing interest altogether.

Among the benefits of eLearning is the fact it allows you to continuously monitor student progress. This

way, if you see a student slowing down or falling behind, you can step in and get the student back on track.

You can maintain student contact through regular phone calls or e-mail. The easiest way to do this is through a series of very natural questions:

- Do you have any questions about what you've seen or read in the eLearning program?
- Have you purchased your (anything from mask, snorkel, and fins to compass, lights, reels, and lift bag)?
- What are your plans for (anything from open water training to their plans for their first dives following certification)?

Maintaining this contact and letting students know you are there when they need you:

- Lets students know you care about their success
- Motivates students and helps keep them on track
- Helps you identify and solve problems while there is still time to do so

In the early days of diver training, it was not unusual for instructors to spend up to 16 hours or more in the classroom during beginning scuba courses. Today, you may be lucky to

get even a quarter of that. Nevertheless, even though your in-person contact hours may be less than they once were, the time you need to invest in being a dive educator remains largely the same.

> Remember, you cannot wait until the first formal class session to engage students in an ongoing dialog about their education. If you want your students to succeed (and make your job easier in the long run), you need to begin this process as soon as they sign up.

8.02.00.00 Using NASE eLearning

NASE eLearning programs are the recommended way to conduct academic learning, when available. Under most circumstances, they will meet the needs of the overwhelming majority of students and educators. In this section we discuss five topics, including:

- Why eLearning?
- All eLearning Programs Are Not Created Equal
- The NASE eLearning Model
- Using NASE eLearning
- eLearning for Group Classes

8.02.01.00 Why eLearning?

Each student learns best in different ways. Some gain more through reading; others through classroom presentations. Watching a video can be a powerful learning tool; however, unless it is interactive, there is no way to ensure that learning takes place simply by watching a TV screen.

> Educational experts agree that a well-structured, computer-aided learning program is by far the most effective means of transferring cognitive skills, in part

because it combines the best features of all forms of academic learning. Ironically, traditional classroom lectures, a form of teaching that too many diving educators tenaciously cling to, ranks at the very bottom of the list.

What makes a well-structured eLearning program so effective?

- eLearning can combine seeing, hearing, reading and doing. It does so in ways that are more effective than any one, single method of learning.
- eLearning is self-remediating. While students can skim a textbook or fast-forward through a video (or not pay attention in class), there is no fooling a good eLearning program. Students are presented with one topic at a time and can only progress to the next topic when they have correctly answered one or more questions, which establish that they fully comprehend everything that has been covered so far. With eLearning, no student gets left behind.
- It's self-pacing. Each student progresses at his own pace. In contrast, classroom lectures either move at the pace of the slowest learner, or some students get left behind.

- Convenience enhances readiness, which is an important prerequisite for learning. If you have faced a classroom filled with students whose minds are still on the office or that traffic jam they just negotiated, you know what it is like to deal with students who are clearly not ready to learn. In contrast, students are more likely to engage in eLearning at times and places that are more relaxed and less stressful.

- eLearning increases your reach. Time constraints are the single biggest reason more people don't learn to scuba dive. eLearning makes diver training available to more people and expands your market base.

- eLearning is better for the environment. Paper-based learning materials waste natural resources and, while you can recycle paper and grow more trees, what you can't replace is the fossil fuel and energy needed to turn those trees into paper and get the resulting books to market.

- eLearning is better for the bottom line. You tie nothing up in inventory and increase your overall profitability.

Think of it this way: With eLearning, a student from half way around the world can log on and start taking part in your scuba course, even at 3:00 AM while you're sound asleep in bed.

8.02.03.00 All eLearning Programs Are Not Equal

All textbooks are not equally as effective (or as enjoyable), and eLearning programs are the same way. Prior to the introduction of NASE eLearning, most of the available eLearning programs for diving followed the same basic learning model: they were little more than the agency's textbook content placed on a computer screen. This is a problem for several reasons:

- Experts tell us that text on a computer screen is 25 percent harder to comprehend and takes 25 percent more time to read than text in a book. So in terms of ease of reading, students would be better off sticking with traditional textbooks.
- Years of surfing the Internet have conditioned students to skim instead of read what is on their computer screens. When you visit a web page, do you read it word for word, top to bottom? Of course not! Your eyes dart all over the page, looking for the button or link that will get you to what you are really looking for. When it comes to learning, this does not bode well for comprehension and retention.
- In contrast, the only thing the Internet delivers that truly seems to capture people's attention and gets them to stay

on a page for a fixed period of time is video. Unfortunately, the only videos most dive-related eLearning programs offer are snippets from the agency's DVD, carved into small pieces playing in a tiny window.

What makes the NASE Worldwide eLearning program different? It's simple: NASE has diving's only eLearning program that is entirely video-based. As such, they do a better job of capturing students' attention and getting them to stay focused long enough for learning to take place.

8.02.03.00 The NASE eLearning Model

The fundamental element in the NASE eLearning model is a page outlined as follows:

- At the top is a headline identifying the topic that page covers.
- Below this is a list of study questions, which are the learning objectives re-stated in question form. This is the information students need to be looking for as they watch the video.
- The next element is the video player; this is the central focus of the page. The video is large: 640 pixels wide by 360 pixels high (same size as YouTube). This is over twice

the viewable area of most competing programs. Videos are typically three to six minutes long.

- Following the video player is a Summary of Key Points. These encapsulate what is covered in the video, providing additional repetition and reinforcement. Also, should students need to return to the page, having missed one or more assessment questions, they can simply review the key points and avoid having to re-watch the entire video.

The next screen students come to after watching the video is one containing one or more multiple choice or True/False assessment questions.

- If students answer the question(s) correctly, they progress to the next topic and page.
- If they miss a question, they go back to the preceding page, where they can review the subject matter before trying another assessment question. However, they are not sent back more than one single page at a time.

There is a pool of three possible questions and answers for each topic. Therefore, if students must re-take a particular quiz, there is only a one-in-three chance of being asked the same question twice.

> The most important thing is that students cannot progress to the next topic until they demonstrate mastery of the preceding subject. Additionally, the system does not facilitate "skimming" or "fast forwarding," so overall comprehension is better.

Only by working through all pages sequentially can students successfully complete the course.

8.02.04.00 Using NASE eLearning

Students can sign up for the NASE eLearning program in one of two ways:

- They can go directly to the NASE eLearning website and sign up for training using a major credit or debit card. As part of the sign-up process, they are asked to choose an individual instructor or dive center with whom to affiliate. Assuming you are located in the area or destination that interests them, there is a good likelihood students will pick you, and you get a portion of their eLearning course fee.
- You also have the option to purchase prepaid sign up codes from NASE Headquarters. You can sell these to students (at a profit) or include the cost in your course fees. Again, as part of the sign-up process, the students

must choose an individual instructor or dive center with whom to affiliate.

Students who enroll in NASE eLearning also receive a digital version of the student manual. This is included in the cost of the program.

- Student kits are also available from NASE that include prepaid sign up codes. Thus, when students sign up directly with you, they can get their student kits on the spot.
- As students go through the course, you will be able to log on to the system and monitor their progress. There is no need to call just to ask how they are doing. If you see that a student is having difficulty in a particular area, you can jump in and help.
- Every time a student enrolls in the program, you will be notified by e-mail. You will also receive an e-mail notification when they successfully complete the course. If students need to contact you, they will find your phone number on every page, plus they are able to e-mail you from within the program.

Presumably, students who sign up directly through you will have gone through your standard course orientation. Those who sign up on the NASE eLearning website will have missed this. You need to get this information to them and have them sign a Learning Agreement as quickly as possible.

> If you are dealing with students from outside your immediate area, you will definitely want to consider making the YouTube orientation video discussed earlier. Also, make sure to convey your Learning Agreement via email as soon as possible so as to avoid potential misunderstandings later.

Even though the system makes monitoring student progress easy, you still need to maintain an ongoing dialog with your students. Questions you will want to ask:

- What are your needs and/or plans as far as in-water training?
- Have you purchased the required equipment?

Students who enroll using sign up codes will most likely have already scheduled their in-water training with you. Those who do it directly through the NASE eLearning website will need to know what options are available to them.

Most students who enroll in eLearning have a specific schedule in mind (i.e., "I'm going to Cancun in three weeks…"). Others may wish to complete the eLearning program before scheduling their in-water training.

Be aware that some individuals who enroll in your eLearning program will never complete the online course or in-water training. These are individuals who most likely would not have enrolled in any traditional scuba course under any circumstances. But, they are still customers. Their experience, regardless of how far they advance in the certification process, is important. If they don't finish it entirely but enjoy the parts of the course they complete, they might provide positive word-of-mouth advertising for your business and for NASE Worldwide.

Important note regarding minors and eLearning:

- To comply with the Children's Online Privacy Protection Act (COPPA), no minor under thirteen may participate in the NASE eLearning course.

8.02.05.00 Completing the eLearning Process

When students successfully complete the program, they receive a downloadable Certificate of Completion (not a certification card), and you receive an e-mail notification. This would be a good time to follow up with them to make sure they are on track to begin the next phase of their course. Additionally:

- In so far as the system has already assessed student knowledge and provided you with access to students' records, there is no written "homework" or need to take a final exam.
- After students have completed the eLearning program, the system will allow you to download and print individual "report cards" showing which questions students missed. Have students review this, initial each correct answer and sign where indicated at the bottom.
- As students progress through their in-water training, the system also allows you to maintain a record of their progress.

- Once students have completed all of the requirements for certification, all you need to do is click the Certify button and a card is issued automatically.

8.02.06.00 eLearning for Group Classes

If you offer private or semi-private instruction, the benefits of eLearning should be obvious. The reason most people take private lessons isn't just a desire for personal attention; they have scheduling issues that demand the flexibility eLearning offers.

> Similarly, if you teach in a resort setting and have students flying in from out of the area, you can't afford to waste any of the limited time students have with you wading through traditional lectures. You need to have them complete the eLearning program before they arrive.

What about your regularly scheduled and locally conducted group classes? Can you use the eLearning program for these? Absolutely. Best of all, it works the same way and provides the same benefits.

8.02.07.00 What do you do with the time you save?

By using eLearning, either with private or group classes, you will save considerable time. Does this mean you can shorten your courses?

> If severe time constraints are causing problems for you now, yes, it can. However, if this is not a problem, we'd suggest putting the time you saved to better use. NASE highly recommends that instructors schedule a class session with their students in order to review and have students sign their individual "report cards," and prepare the students for confined and/or open water training. This recommendation extends to all students, not just the entry-level class.

For example:

- Have the students bring their personal gear so that you can help them adjust the fit.
- Fit entry-level students with their BCs (and wet suits if needed) and show them how to assemble their scuba units. Let them practice.
- Conduct a "dry dive" with the students by reviewing basic skills and allowing them to practice the steps for each skill.

- Promote equipment sales, continuing education and travel opportunities.
- Review options and plans for their open water dives.

If you have limited time and access to confined water venues, then the first three suggestions listed above will help save valuable time so that the students can actually practice and refine their skills on their dives.

8.03.00.00 When eLearning is Not an Option

eLearning is, by far, the best option for the vast majority of students. At one time, access to high-speed Internet might have been an issue. But today, even those living in rural locations can connect via WiFi at the local McDonalds or public library. Still, there may be occasions where you run into students for whom eLearning is not an option. Examples might include:

- Students who are not fluent in a language in which the eLearning program is available
- Children under the age of thirteen

In these rare instances, you are going to have to teach the academics using traditional methods. To help you do so, NASE offers the following:

- The learning objectives students must be able to meet can be found in the eBook for each course. These are the Study Questions found at the beginning of each section.
- Assessment packages that include final exams, answer sheets, answer keys and more can be downloaded from the NASE Pro website.

Be aware that, if the problem is one of language, you will need to translate these materials into a dialect in which the student is fluent. Regardless of language, students must demonstrate mastery of all learning objectives before participating in any in-water activities. Classroom-style lectures, outside reading and other methods may be necessary.

8.04.00.00 Teaching Dive Tables

Although NASE Worldwide promotes the use of dive computers for all recreational dive courses, NASE offers dive tables, complete with depth values for air and EAN32. Standards dictate that students must have either a dive computer or tables for each course.

If you would like to put together your own teaching presentation covering the use of dive tables, you can. Before you do, however, you may want to consider the following:

- Dive tables are often characterized as being obsolete. There are very few training organizations left that mandate teaching them. Think about it: When was the last time you saw any serious recreational diver who did not use a computer?
- Dive computers used to be very expensive. Now you can get a basic wrist model for little more than the cost of a top-of-the-line pair of fins. At this price, computers have become a piece of personal equipment no diver should be without.
- While divers can certainly misuse a dive computer, it is arguable that they are more likely to make a critical

mistake using dive tables. Dive tables are complicated and require constant practice to use correctly. Even when divers follow the correct methodology, they are human. With such tiny numbers, it is easy to be off by one row or column. As one expert said, "Dive tables represent a total and complete failure in user-interface design."

Dive tables are often touted as being a valuable thing to have in case of computer failure. Consider, however, what needs to happen in order for that to be true:

- Divers need to be either totally free of residual nitrogen (such as at the start of a new diving day) or they need to have an accurate record of their previous depths, times and surface intervals…and those dives need to have been made within dive table limits (not very likely).
- Divers need to be proficient in dive table use. In reality, few computer divers routinely practice using tables.
- Divers need to have an alternate means of tracking depth and time. And, if you are going to invest the money in a backup depth gauge and timer, why not just get a second computer instead?

The fact is, the only truly effective backup for computer failure is to own and carry a second dive computer. This being the case, why bother teaching dive tables?

8.05.00.00 Teaching the Six Rules

Students, whether taking a beginning scuba course or a continuing scuba education course, must master a lot of new information. As an example, the Open Water Diver eBook identifies nearly 200 terms that are either new to most students or used in a different way than students are accustomed to. However there is very little that requires rote memorization.

> The one exception is The Six Rules of Recreational Scuba. These are the six things most critical to the safety and well-being of the dive students and their environment. These are six things that your students, regardless of their training level, should commit to memory, be able to repeat back to you on demand, and in the case of continuing scuba education students, put into practice on every dive.

They include:

- 1. Breathe continuously while on scuba. Never hold your breath.
- 2. Equalize early and often while descending. Never go deeper than you can comfortably equalize.

3. Ascend slowly from every dive and make safety stops.
4. Continuously monitor depth, time, and pressure.
5. Do not overweight yourself.
6. Dive like a fish (and not like an ape).

Although the Six Rules are introduced in the NASE Open Water Diver course, they should be reinforced in every continuing education course. If a student obtained his beginning scuba certification or other certifications from another agency, then you will have to introduce and teach the Six Rules to him and explain that the ability to recite and adhere to these rules will separate him from other divers.

9.00.00.00 Skill Development for all NASE Courses

This section covers three separate areas, including:

- Sequencing Skill Training
- Control and Supervision at the Instructor Level
- Instilling Good Habits in Students
- In the last section, we will look at teaching individual skills

Here are some points to keep in mind as you use this guide to plan the skill development portion of any NASE course:

- Since the largest percentage of students will take the NASE Open Water Course, most of the examples in this guide refer to that program. However, the principles discussed here apply to all NASE courses.
- Any information specific to the skill development of a particular course is contained in the respective instructor guide.

9.01.00.00 Sequencing Skill Training

With some training organizations, knowing the order in which to introduce and practice skills is easy; the all-knowing parent organization tells you, skill by skill and dive by dive, which skill to teach and when. What could be easier?

But in the real world:

- If a course requires confined water training sessions, instructors are not always able to conduct the same number of sessions, nor are those sessions likely to be of equal length.
- If you conduct open water training at multiple sites, some sites may not be as conducive to practicing certain skills as others.
- The unexpected happens. A sudden change in weather or conditions may force you to postpone practice of a certain skill until a later dive or prompt you to do it sooner, while conditions are still favorable.
- Some instructors are simply more comfortable teaching skills in a certain order, while others may prefer a different sequence (and not all students learn best the same way).

In the individual course sections that follow, you will see listings of skills that represent possible ways you may want to sequence skill training. These sequences conform to the general guidelines for skill sequencing outlined later on in this section. They are not necessarily the best sequence for every single situation. Ultimately, it is the instructor who must decide how skills can best be sequenced and combined in any individual learning situation or course.

9.01.01.00 General Guidelines for Skill Sequencing

However you choose to sequence skill training in a particular course, that sequence should conform to certain guidelines:

- First Things First (Simple to Complex): Before you ask students to use a power inflator under water, have them become comfortable with its use on the surface. Why? Because it is just plain easier that way.
- Component Skills Before Combined Skills: Many complex skills are comprised of individual component skills. Mask clearing, for example, includes the ability to breathe comfortably with your nose exposed to water. Therefore, it makes sense to have students become accustomed to

no-mask breathing in shallow water before asking them to attempt any sort of mask clearing.

- Survival Before Depth: Before taking students in water too deep to stand (i.e., the deep end), make certain they have mastered the fundamental skills that will help them solve any problem they may encounter at depth. Students, at a minimum, should be able to equalize pressure in their ears, recover and clear a regulator second stage, locate and begin breathing from their own alternate-air-source second stage, and clear at least a partially flooded mask.

- Shallow Before Deep: Certain skills are more likely to cause students to panic and bolt to the surface if something goes wrong. These include mask clearing and no-mask breathing, and regulator recovery and clearing. To minimize the likelihood of this happening, students should become totally comfortable with these skills in shallow water (i.e., waist-to chest-deep water) before being asked to perform them in deeper water.

- Be Compatible: If you and other instructors teach in a group situation, such as at a dive store, it is important that, whatever skill sequence you follow, all of the instructors in your group do the same. That way, if need be, a student

can begin confined or open water training with one instructor in your group, then switch to another class if forced to by illness or the need to repeat sessions.

9.01.02.00 Confined Versus Open Water Training

It is often said that you have students develop skills in confined water and then have them apply those skills in open water. This is true not only for beginning scuba students but for those taking continued diver education courses.

Despite the fact that most instructors don't include any confined water training past the entry-level scuba course — generally because of cost — this doesn't mean that there isn't a place for confined water training in continuing diver education courses. Imagine being able to teach certain skills from an Advanced Open Water course in a pool prior to the dive-training weekend. The students will have more practice time and be able to spend more time during the actual dives refining skills rather than performing a skill once or twice and moving on.

However, some skills, regardless of the level of training, are best left for learning and practicing in open water:

- Some skills, such as certain entry and exit techniques, and compass navigation, often cannot be taught except in an open water setting.
- Other skills, such as scuba unit removal and replacement under water, can be taught with relative safety in shallow, confined water but could place students at unnecessary risk if attempted in deeper open water.

In general, having students practice fundamental skills such as mask clearing, regulator recovery and clearing, gas sharing, and buoyancy control in open water provides a valuable learning experience.

- Repetition is key to learning. The more opportunities you give students to practice skills, the better they will be.
- Skill practice becomes even more valuable when it gives students the opportunity to apply skills under a wider range of environmental and other conditions, such as cold, salt, less-than-ideal visibility, surf, surge, waves, currents, at greater depth, and while using thicker exposure suits.

9.01.03.00 Readiness for Open Water

The biggest single mistake we see dive instructors make, especially with entry-level students, is to allow students to

participate in open water training when they are not ready. It is a bad practice for a number of reasons, including:

- It can prevent students from getting the most from the experience: One of the most gifted diving educators we ever encountered was fond of saying, "Practice does not make perfect. Only perfect practice makes perfect." Your students will gain little from open water training if all it provides is the opportunity to compound previous errors or to continue practicing things the wrong way.
- It can turn students away from diving: Students who are not truly ready for open water are more likely to have a bad and potentially frightening experience. Far too often we see ill-prepared students whose experience in open water convinces them to never dive again.
- It can put students at risk: Panicking at the bottom of the deep end of a pool is scary. Panicking one atmosphere down on a night dive can be dangerous. Panicking at the surface without the experience and presence of mind to inflate a BC or drop weights can lead to disaster.

So what makes a student truly ready for open water training? Let us first take a look at what makes a student unqualified to proceed to open water training:

- Just because a student muddled through the same number of confined water sessions as the other students in the class doesn't make that student qualified for open water training.
- Just because students have a flight scheduled early next week to the tropical island where they planned to complete their open water training dives doesn't make that student qualified for open water training.
- Just because a student, after numerous attempts, finally floods and clears a mask once doesn't make that student qualified for open water training.

9.01.04.00 NASE's Concept of Competency

What makes a student truly ready for open water is the ability to demonstrate comfort and, more importantly, competency in all skills. So what exactly is competency? It is the ability to perform any and all skills:

- On Demand: When you ask students to perform a specific skill, they should be able to do it immediately, without having to psych themselves up or mentally prepare.

- Repeatedly: Similarly, students should not require a mental recovery period before they are ready to repeat a particular skill again and again.
- Without Undue Stress: Students may not like every skill you ask them to perform, but the prospect of doing it should not terrify them. Students who are visibly nervous performing basic skills are not ready for open water.
- Without Significant Error: It is a rare beginning or recently certified student who can perform basic skills with the grace of an instructor or divemaster. Nevertheless, students need to be able to perform any skill in any course without making a substantial number of mistakes.
- While Maintaining Neutral Buoyancy: Any skill students can only perform while standing, sitting or kneeling on the bottom will be of no value when a problem occurs mid-water.

NASE Instructors are to evaluate students according to these standards. If a student fails to meet one of these criteria, then they have not mastered that particular skill.

> Only students who demonstrate competency in all required skills at any level should be allowed to

progress to open water training or, in the case of a continuing diver education course, earn a certification.

This is an understanding that should be part of your Learning Agreement mentioned in Knowledge Development for All NASE Courses section. Students need to know that unless you are confident in their readiness, they may need to repeat one or more skills or possibly even the entire course.

Remember, you are not doing students any favors if you allow them to participate in open water training or award a certification before they have truly earned it. In fact, if you do, your "generosity" might prove fatal.

9.01.05.00 Skill Sequencing in Open Water

One area in which you will hear a variety of opinions has to do with how to sequence skills during open water training. Here are a few considerations for the NASE Open Water Diver course:

- One approach is to try to complete as many required skills as possible during the first one or two dives so that later dives can be used primarily for sightseeing and having fun. Getting skills out of the way as quickly as possible makes a certain amount of sense for several reasons.

Once completed, these skills are no longer hanging over students' heads. Psychologically, this makes it easier to relax and have fun on later dives. If you anticipate an adverse change in weather or plan to use a dive site on later dives that is not as conducive to skill practice, getting skills knocked off as soon as possible makes sense as well. Finally, by not postponing certain skills until the last possible minute, you create the opportunity to repeat them on later dives if students need the additional practice.

- Another approach is to sequence skills more evenly across a number of dives, possibly having no skills at all on the first dive. The chief argument for spreading skills out more evenly is that you minimize the task load on students and decrease the likelihood they will spend most of their first one or two dives sitting around waiting for the opportunity to perform yet another one of the lengthy list of skills you have prescribed for them.

For NASE continuing education courses, refer back to the General Guidelines for Skill Sequencing presented earlier in this section. For instance, in the NASE Advanced Open Water Diver course, it might make sense to complete the Navigation Dive first so that students can practice these skills

on subsequent dives. Also, when teaching the NASE Rescue Diver Course, you may want to break down and have the students practice the steps in recovering an unconscious diver from the bottom.

> There is, of course, no "best way" to sequence skills, only the way that is best under a particular set of circumstances. Skill slate outlines list possible sequences. Feel free to use or modify these resources as needed.

In the section on conducting individual skill exercises, you will want to note the recommended procedure for conducting alternate-air-source ascent exercises over the course of several dives. Doing so helps avoid having instructors and students bounce up and down like yo-yos (i.e. it avoids "sawtooth" profiles) and helps ensure that every dive ends with a slow ascent and safety stop.

9.01.06.00 Skills NASE Does Not Require (and Why)

Overall, NASE Worldwide asks for a lot more from its instructors than many other training organizations. For example:

- We insist that rather than simply performing a skill on a checklist once, students must be able to demonstrate total and complete competency in that skill.
- Rather than only having a set number of open water training dives, we also require that students log a minimum number of minutes in open water prior to certification.
- We're obsessive about buoyancy control, insisting that students be able to master and demonstrate basic scuba skills while maintaining neutral buoyancy just as they would be in the real world.

Here are the skills that NASE does not require and why we do not:

Independent Emergency Ascents in Open Water

As you will read in the section on teaching individual skills, NASE does not expect students to remember five or more different options for handling an out-of-air/low-on-air situation. Given that students will most likely never practice any of these skills following certification, doing so is unrealistic. Instead, we limit what we teach in the way of out-of-air options to just two:

- Alternate-air-source ascents

- Independent emergency ascents (includes both swimming and buoyant ascents)

You will find these options discussed in greater detail in Section Six of the NASE Open Water Diver eBook and the Skills section of the Instructor Guide.

- As far as alternate-air-source ascents go, students practice these in both confined and open water both as donor and receiver, and while stationary and ascending.
- As far as independent emergency ascents go, however, we only require that these be practiced in confined water.

In fact, in so far as NASE standards mandate that all open water training dives end with a slow (10 m/30 ft per minute or less) ascent and a three- to five- minute safety stop, this pretty much prohibits any type of independent emergency ascent training in open water.

Why is that? For several reasons, including:

- To start, it's unnecessary: The Instructor Guide outlines numerous ways to practice independent emergency ascents in confined water, all of them low risk. Any benefit gained through additional practice in open water is most likely offset by the risks and other drawbacks involved.

- It entails unnecessary risks: Conducting emergency ascent practice while remaining within the recommended maximum ascent rate of 10 m/30 ft per minute is almost a physical impossibility. We shouldn't have to tell you the consequences of breath holding during this exercise. And, according to the operator of a large, central-Pacific dive operation, in the cases of five instructors who went to the chamber in a two-year period, the one common denominator was that all five had ended their day by conducting multiple emergency swimming ascent exercises. In fairness, that situation is unusual — but why expose students or instructors to unnecessary risk if there is no offsetting benefit?
- It presents problems with control and supervision: Unless you have just one student, or are blessed with multiple assistants, it is almost impossible to conduct this exercise without leaving students unattended at the surface or under water (or in both places simultaneously). That's not acceptable ethically, and most likely indefensible in a court of law.
- It sets a horrible example: Throughout the beginning course, we stress the importance of ending every dive

with a slow ascent and spending the last three to five minutes at a depth of 3-6 m/10-20 ft. How seriously will students take this advice when they see their instructor bouncing up and down like a yo-yo at ascent rates sure to set off the most liberal of dive computer alarms?

Remember that students are far more likely to remember what they see and do rather than what you say. This is why we are so emphatic about ending every training dive with a slow ascent and safety stop.

Ditch and Recoveries/Bailouts

We shouldn't have to elaborate on these high-risk/high-stress exercises that have little, if any, relevance to real-world diving. Suffice it to say that if you choose to include this type of training in your course and a student has an accident as a result, you will find it almost impossible to defend yourself in a court of law.

Underwater Compass Swims at Entry Level

Compass navigation is a valuable skill and is covered extensively in the NASE Advanced Open Water Diver course.

Too many diver training programs create the impression that underwater navigation is all about using a compass. It isn't. In

fact, situations in which divers need to rely on a compass to find their way are somewhat rare.

Most of the time, divers use natural navigation to find their way. Teaching this skill to students should be a much higher priority than having them learn to use a compass.

As you and your assistants take entry-level students on guided dives, don't just let them assume you got from point A to point B and back again through magic. Explain in your briefings and debriefings the natural landmarks, depth contours, and other clues that helped you find your way.

Better yet, provide students with the opportunity to find their own way under water on at least one dive, using what you have taught them. In doing so, they will need to be followed by an instructor or certified assistant who will intervene before students get into trouble.

Remember, you are certifying students to dive independent of your constant guidance. It's nice to be able to see that they can actually do that.

9.01.07.00 Acclimating to Open Water

Sometimes, the environmental differences between confined and open water are negligible. At other times they can be substantial, especially if you are dealing with factors such as

significantly colder water, surf, surge, waves, and/or currents. Under these conditions, the worst thing you can do is simply throw scuba units on students' backs and march them into the water.

The better course of action is to make a conscious effort to acclimate students to their new environment and any new equipment before heading under water. Here are some ideas that may help:

- Start in the pool: If possible, have students wear the same exposure protection on the last pool dive as they will in open water, including hoods and gloves.
- Try it without the tanks: It's a standard of practice in areas where surf entries are common to have students make their first such entry wearing nothing more than masks, snorkels, fins, and wet suits. In fact, it's a good idea any time you are dealing with bulkier suits or any sort of water movement.
- Go free diving: If you have introduced students to the joys of free diving in the pool, take it a step further and make a free dive your first open water experience. It will help further ease the transition. As an added benefit, if your students are wearing thicker exposure suits, the proper weighting for free diving (i.e., weighting for neutral buoyancy at 5 m/15 ft) may

very well be the same amount of lead students will need when they add the additional weight of full scuba tanks and regulator.

- Say “Hello” to the ocean: Before going underwater for the first time, have students flood and clear their masks at the surface. Yes, in colder water, this may come as a real wake up; however, it is better to acclimate to cold water on your face at the surface than it is to do so for the first time one atmosphere down.

9.02.00.00 Control and Supervision at the Instructor Level

We are going to assume that incorporated into your Divemaster and Assistant Instructor training were lessons on how to position students and assistants for maximum control and student safety in confined and open water, and that you learned how to supervise students on guided open water dives. We won't belabor these points here; however, if you have questions, you may want to consult your Divemaster or Assistant Instructor course materials.

In this section, we want to address certain instructor-level concerns regarding the control and supervision of student divers, as well as identify and help you avoid common mistakes. Most of the information presented here pertains to entry-level students. However, there are times when you must provide the same level of supervision to continuing education students as well. A deep dive, whether part of the Advanced Open Water Diver course or Deep Diver specialty course, is a perfect example. Instructors should always review the NASE General Standards and Procedures before beginning a class to make sure that they are providing the required level of supervision.

9.02.01.00 The Fundamental Principles of Supervision

Here are four basic principles you need to follow when supervising students:

- Let no student go unwatched: This is paramount even for continuing education students. While at no time during a beginning scuba course should any student be where he cannot be seen by an instructor or certified assistant, dive professionals and leaders must be close enough to all of the students under their care to recognize and correctly respond to any problems that arise.
- Brief, demonstrate, practice, and improve: Before introducing any skill for the first time, you need to brief students on its objective, value, key points, and the procedure for demonstration and practice. You then need to provide a role-model demonstration that will show students what it will look like if they do the skill correctly. Finally, you need to provide students with the opportunity to practice what they have seen demonstrated, providing feedback and additional opportunity for practice as needed until they achieve competency. This advice applies to all students, not just entry-level students.

- Make it real: One writer has suggested setting up the side of your pool like a dive boat, marking off what would constitute the edges of the vessel. It's a nice thought but likely impractical unless you have your own pool and can construct a pseudo dive boat on its edge. The underlying thought is a good one, though. As much as possible, make the way you dive in confined water reflect real-world diving.

- Give students the opportunity to grow: The degree and type of control you exercise will, by necessity, change as your class progresses. Initially, you will likely be keeping students in a close semicircle as you demonstrate and practice basic skills in shallow water. As students gain competency, however, you want to be able to afford them the opportunity to swim independently in the deep end (if using a pool) or lead their own dives (under supervision) in open water. The bottom line is that students will never learn to dive unless you give them the opportunity to do just that.

9.02.02.00 Common Mistakes in Control and Supervision

From time to time, instructors will come up with new and imaginative ways to exercise poor judgment when it comes to control and supervision. For the most part, however, we see the same mistakes being made over and over again. Listed below are some of the most common mistakes noted.

Too Many Students at Once: Just because standards say you can take a certain number of students down at a time (assuming absolutely ideal conditions) does not mean that doing so is necessarily a good idea. Consider the following:

- You have eight students taking part in open water training. You take all eight students down to the training platform and arrange them in a semicircle with your trusty assistants standing guard in case a student suddenly decides to make a run for it.
- Thus arrayed, you begin working through a lengthy list of skills, one student at a time, until each of the students has had the opportunity to demonstrate his ability to perform all of them. While waiting their turn, the remaining students have the opportunity to sit and do nothing.

- Finally, after completing the last skill, you check air pressures and discover that several of your students are running low. This being the case, you end the dive, surface, and return to shore, only to repeat this scenario on the next dive.

So what is wrong with this picture?

- To start, although they may have spent up to 30 minutes or more under water, the students never had the opportunity to actually go diving. Assuming this pattern repeats itself over several training dives, the result will be the creation of yet another batch of certified non-divers.
- During the vast majority of their time under water, the students are doing nothing, and students who are doing nothing are learning nothing. They are also becoming cold and bored, neither of which is a factor that facilitates learning.
- Almost as bad, your certified assistants are doing little more than acting as babysitters, and you are letting one of your most valuable resources go entirely to waste.

So how could we do this better?

- Remember that even though standards limit the number of dives students can make on a single day, there is no limit to the number of dives you and your staff can make.
- Divide that unwieldy number of students into smaller groups of two to four divers each.
- Take each of the smaller groups down individually and knock off any required skill practice in a fraction of the time. Students will get less cold and less bored waiting.
- When done with the skills, turn the group over to your assistants to be taken on a guided dive while you go and get the next group. Your students will learn more by actually getting to dive than they will sitting on the bottom waiting for the opportunity to perform yet another "skill."

Don't Get Strung Out: Do not allow a group of too many students to get strung out behind you when conducting guided dives.

- Under ideal conditions, the largest number of students most of us can effectively guide is four. In less-than-perfect visibility, that number drops to two.
- Remember that you or your assistants must be able to maintain eyes-on contact with students at all times. When

students are strung out in a single-file line of buddy teams, you will be lucky if all you can see is the team immediately in front of or behind you.

Consider the case of the instructor who decides to take a group of six students on a guided dive in less-than-perfect visibility. He positions himself at one end of the line and a certified assistant at the other, keeping the students sandwiched in between.

Shortly into the dive, it becomes apparent that the group has become separated. The instructor surfaces with the buddy team closest to him. The assistant joins them on the surface with the buddy team he was closest to. No one has seen or can account for the team that was in the middle.

So how could we have done better? As it is apparent that the maximum number of students any instructor or assistant could keep track of in this particular situation is two, the logical course of action would be to break the class into buddy teams of no more than two divers. Each individual team is then taken on their own dive with an instructor or assistant. Also, an instructor should not hesitate to leave a group on shore until an instructor or certified assistants

become available. Consider the alternative of losing someone underwater.

Again, this advice applies to continuing education courses. Consider the above scenario again, but this time imagine it taking place during a night dive. It doesn't matter that the lost team is certified divers. These students were under the instructor's care and direction.

Let Your Assistants do More Than Watch: Your certified Divemaster and Assistant Instructors are among your most valuable resources. Don't let them go to waste.

- As you have already read, certified assistants can help you use time more effectively by conducting guided dives for students.
- As outlined in Standards and Procedures, your Assistant Instructors can conduct skill demonstrations and practice the same as you would, as long as they are doing so under your direct supervision.

Also, remember that once students have demonstrated competency in a particular skill in confined water, your Assistant Instructors can supervise additional practice of that skill independent of your supervision.

Belaboring the Obvious: If you teach at a public pool, you most likely have limited time there. Do not let it go to waste.

- Briefings need to be just that: brief. Ultimately, a good demonstration may convey more than words alone. Focus on keeping things moving.
- If possible, brief several skills prior to going under water. This will limit the number of times you need to surface.
- Remember that students will remember what they see and do more than they will what you say. Talk less. Do more.

9.03.00.00 Instilling Good Habits in Students

A large part of diver training is developing good habits, both by setting an example and by reinforcing good behavior. Before we get into that, however, we want to discuss the way in which you reinforce good behavior.

We occasionally come across instructors who "punish" students for bad behavior, often in ways that are not constructive and may be downright unprofessional. Consider these examples:

- "You put your mask on your forehead. Now I'm going to toss it in the deep end and make you go after it."
- "You left your tank standing upright. That's going to cost you a beer."

All it should really take to correct these behaviors is to recognize them and remind students of their consequences. Insulting or belittling students is unprofessional. Also, it is inappropriate to make any association between alcohol consumption and diving.

9.03.01.00 The Impact of What Students See and Experience

In class, we tell students about the importance of slow ascents and safety stops, and about the vital role buoyancy control plays in safety, enjoyment, and protecting the environment. Unfortunately, while this may be what students hear, it all too often is not what they learn. Why?

> Because the typical open water student sees his instructor make multiple, rapid ascents and descents and is asked to do the same himself as part of so-called "emergency" exercises.

Sadly, students are more likely to remember what they see and do than they are to remember what we told them. And what most students see is their instructor bouncing up and down like a yo-yo at ascent rates that make even the most liberal of dive computers howl in protest.

> NASE Worldwide believes that practice of skills such as Controlled Emergency Swimming Ascents and Buoyant Emergency Ascents is best limited to confined water, where risk factors are lower and students may be less likely to assimilate this as

acceptable behavior in open water. We also believe it is better to teach and practice the prevention of out-of-gas emergencies than it is to stress mastering solutions students never practice once certified.

Our recommendations for open water training:

- Every dive should be limited to just one descent and ascent.
- Dives should be planned to avoid “saw tooth” profiles.
- Every ascent (including alternate air source ascents) should be at a rate of no more than 10 m/30 ft per minute, and should include a safety stop between 6 m/20 ft and 3 m/10 ft. This doesn’t have to be an actual stop; swimming at safety-stop depth over a shallow reef or along a wall or slope will suffice (and can be a lot more enjoyable).

Similarly, NASE Worldwide feels that buoyancy control is a vital and integral part of diving — not a “skill” to be practiced on a training platform along with mask clearing and regulator recovery. Unfortunately, most open water students spend far more time planted on the bottom or kneeling on a platform than they do swimming and maintaining neutral buoyancy.

NASE Worldwide's philosophy is that contact with the bottom should be kept to an absolute minimum. Whenever possible, skill practice and assessment should take place while students are neutrally buoyant.

> Think about it. A diver whose mask floods unexpectedly is not going to pull a folding training platform out of his pocket so that he can kneel on it before clearing his mask. The diver who finds himself suddenly out of air is not going to be very happy with a buddy who insists that they must first settle on the bottom before passing an alternate air source.

All too often we've seen divers whose idea of buoyancy control is to drop like a rock from the surface, then wallow on a fragile bottom doing a "fin pivot" to establish neutral buoyancy. And, as ludicrous as this sounds, it is what too many divers learn these days.

9.03.02.00 The Basics

These are things that have traditionally been part of diver training, including:

- No masks on foreheads: This is actually self-correcting behavior. Once students have lost an expensive mask, they generally get the message.
- No tanks standing upright: At least not on rolling boat decks, in high-traffic areas or any time there is a BC attached (especially one with weights in place). Let students know when it is and is not okay to leave tanks standing unattended.
- Exhale whenever the regulator is out of your mouth: Breath holding under these conditions is an innate response. You can only break this habit through constant reminders and conditioning.
- Work as a team: Buddies need to do more than just stay together under water. They need to be helping each other while suiting up, entering, exiting, etc.
- How much gas? Among the most valuable behaviors you can instill in students is constantly monitoring their tank pressure. Unfortunately, this is not a “skill” like mask clearing that you can demonstrate and have students practice. Instead, try putting students on notice that any time they surface you may ask them to tell you how much gas they have remaining without having to look at

their SPG. Let them know you expect their answer to be accurate within a reasonable amount (15 bar or 200 psi).

- Be positive: Another expectation you want students to know you have is that any time they surface in water too deep to stand in, you expect them to immediately inflate their BCs to the point where they can rest on the surface without kicking. Until they reach this point, students need to keep their regulators in their mouths.

- Stay off the bottom: You want your students to know that, unless you say otherwise, they are to treat the bottom as though it is soft, mucky silt or the most fragile of corals. We'll elaborate more on this next.

9.03.03.00 Teaching Rule Number Six

A well-known dive retailer who retired to the island of Bonaire shared with us one of the things that frustrates him the most:

> "I can't tell you the number of times that I see divers plummet to the bottom like rocks, then flop around in the sand like dying fish, trying to do a 'fin pivot' to establish neutral buoyancy. Thank goodness they don't do that right on top of the coral."

Unfortunately, stories such as this are all too common. Why? Because too many divers are taught that buoyancy control is a "skill," something to be demonstrated on command, and then otherwise largely forgotten.

The average beginning scuba student spends up to 90 percent or more of his time under water standing, kneeling or sitting on the bottom. What students "get" from this experience, as a consequence, is the formation of some of the worst possible habits a diver can have, including:

- The notion that being vertical under water is "normal," while being horizontal is not.
- Any time a diver is not swimming, he should be resting on the bottom like an anchor.
- Negative buoyancy, not neutral buoyancy, is the natural state for divers.
- Any time a diver has a problem, such as a flooded mask or lost regulator, he should settle to the bottom before solving it.

You may be wondering, how can you teach students all of these important skills if they are not planted firmly on the bottom? The answer is that you simply have to decide to do it the right way.

9.03.04.00 Embracing Rule Number Six

By now you should be familiar with the Six Rules of Recreational Scuba. Rule Number Six states:

> Dive like a fish (and not like an ape). Strive to maintain a near-horizontal body position under water while swimming and resting. Avoid standing, kneeling, or sitting on the bottom.

It's not sufficient to simply talk about Rule Number Six (or any of the other five rules for that matter). You have to make them an integral part of how you teach, right from the beginning.

Start With Proper Weighting

At some point in your instructor training, someone may have told you that you needed to overweight students in confined water so that they would "stay planted firmly on the bottom" or "not bolt to the surface." If so, this was about the worst advice you ever got, as it instills numerous bad habits in students:

- To start, it gives students the sense that being overweighted feels "normal," when, in fact, you want being overweighted to feel very, very wrong.

- Overweighting creates the mistaken belief that all you should have to do to initiate a descent is to vent your BC. Students should learn that they also need to exhale fully to initiate most descents.
- Overweighting puts students at risk. It dramatically decreases their odds of survival at the surface. For this reason alone, it is not a habit students should develop.

In the Open Water Diver section of this guide, we discuss properly weighting students in greater detail.

Fish don't stand or walk on their tails

As discussed in the NASE Open Water Diver eBook, fish serve as excellent role models for divers. Most fish maintain a perpetual state of neutral buoyancy and do not rest on the bottom. A fish's normal body position is also parallel to the bottom. You should get your students to emulate fish whenever possible.

- Traditionally, instructors have had students sit or kneel on the bottom when practicing basic skills, but, as we have discussed, this reinforces bad behavior.
- A more productive position is what one diving educator dubbed the Mudskipper position. A Mudskipper is a fish

that is often seen resting on the tips of its pectoral fins and its tail while maintaining a largely horizontal position.

- Instead of having students kneel or sit on the bottom, have them assume a position resting on just the tips of their fins and one hand. Students can still learn to clear a mask, recover a regulator using the reach method, initiate an air-share, and just about anything else you might ask them to do, all while maintaining a largely horizontal body position.
- The goal is to instill in students the idea that being horizontal under water is "normal." Being vertical (except for descents and ascents) is not.
- As soon as possible after students master the basics of BC use, let them know that you expect them to be neutral and horizontal at all times underwater, unless you specifically tell them otherwise. This includes adding air to their BCs, if needed, during descents so that they arrive at the bottom neutral.
- By the time students reach open water, maintaining neutral buoyancy should be second nature. In fact, the only adjustment students should have to make is dealing with the possibly greater compression and expansion of exposure suits caused by thicker material and deeper depths.

- If you teach at a site that has training platforms, avoid having students rest directly on them. Instead, have students maintain a position off to the side of the platform while maintaining contact with one hand. If your students are neutral, this is not at all difficult, and it helps reinforce responsible behavior.

If you look over the list of sample open water skill sequencing on the185

NASE Open Water Diver Course Skill Slates, you will see that we do not even list a BC low-pressure inflation skill or a separate "hovering" exercise for open water. Why?

- Because buoyancy control is not a "skill," any more than breathing continuously or equalizing on descent is. Rather, it is something that, by the time students reach open water, they should be able to do without thinking.
- If students need to do "fin pivots" on the sand or on a training platform in order to establish neutral buoyancy, you have to ask whether they had any business coming to open water in the first place.
- Similarly, "hovering" should not be an exercise, but rather something that happens automatically when divers who are neutrally buoyant simply stop swimming.

10.00.00.00 Entry-Level Diver Training

Traditionally, the term entry-level diver training refers solely to an Open Water Diver course. And while this may be sufficient to prepare students to begin diving under fairly direct instructor or divemaster supervision, such as is common on many dive boats and at most dive resorts, it would be foolish for students to get the idea that this, alone, is all they ever need to know about diving.

In the NASE Open Water Diver course, we tell students that they should not consider themselves fully certified until they have also taken the Advanced Open Water Diver and, quite probably, the Nitrox Diver courses as well. Here in the NASE Instructor Manual, we treat basic Open Water and Advanced Open Water as two parts of a complete entry-level diver training program.

10.01.00.00 Open Water Diver Course

The Open Water Diver course is NASE Worldwide's entry-level certification program. It is designed to help prepare divers to:

- Plan and conduct no-stop (no-decompression) dives, with one or more other divers, to depths of 20 m/65 ft, in conditions similar to those in which the divers were trained or have gained prior experience. However, until divers take part in additional training, or gain considerably more experience, NASE recommends they limit themselves to organized, instructor- or divemaster-lead activities, such as typically take place aboard dive boats or at dive resorts.
- Make guided dives under direct Instructor, Assistant Instructor, or Divemaster supervision, to depths of 30 m/100 ft (20 m/65 ft for divers ages 12, 13 and 14).
- Continue their education through NASE continuing education courses.

10.00.01.00 Teaching Options

Depending on circumstances, NASE Instructors can take advantage of two distinct options for certifying NASE Open Water Divers.

10.00.01.01 Option 1: Traditional Scuba Course

- Prior to any in-water training, students complete the NASE Open Water Diver eLearning course in its entirety.
- Prior to any open water training, students complete all required skill performance objectives in confined water.
- Students complete 100 minutes of open water training and all required skill performance objectives for open water.

At this point, students receive immediate NASE Open Water Diver certification.

10.00.01.02 Option 2: Scuba Diver Certification

- Prior to any in-water training, students complete the NASE Open Water Diver eLearning course in its entirety.
- Prior to any open water training, students complete all required skill performance objectives in confined water.
- Students complete a minimum of two open water dives and a minimum of 50 minutes of open water training and all skill performance objectives noted by (*) for open water.

At this point, students receive immediate NASE Scuba Diver certification. Scuba Diver certification is limited to the following:

- The maximum depth limit for Scuba Diver certification is 12 m/40 ft.
- Those with the Scuba Diver certification are required to be under the direct supervision of a qualified dive leader with a ratio of 4:1 (divers to leader).
- If accompanied by a qualified NASE Instructor, Scuba Divers may continue training towards Open Water Diver.

10.00.01.03 Option 3: Introductory Scuba Experience

With this option, students can begin by taking part in an introductory scuba experience and, if they choose, continue working with their instructor until all in-water performance objectives are met. Specific requirements include:

- Prior to any in-water training, students demonstrate academic mastery of The Six Rules by successfully completing the NASE Scuba Experience pre-dive quiz.
- Prior to any open water dives, students demonstrate both comfort in the water and mastery of the following skills:
  - ☐ Establishing positive buoyancy *on the surface by inflating a BC
  - ☐ Breathing from a regulator

- ☐ Regulator recovery and clearing
- ☐ Breathing from an alternate air source
- ☐ No-mask breathing
- ☐ Mask clearing
- ☐ Equalization

- The maximum depth limit is 12 m/40 ft.
- Students are also to demonstrate buoyancy control through proper weighting. This is a task they will likely accomplish with instructor assistance.
- Students who elect to extend their introductory scuba experience into a full-fledged Open Water Diver course can continue working with their instructor until all confined and open water skill performance objectives are met, and they have logged at least 100 minutes of Actual Bottom Time in open water.
- Students are to understand, however, that they will not be awarded NASE Open Water Diver certification until after they have successfully completed the eLearning course. If students are on vacation, this can be done after they return home.
- Instructors who take advantage of this option are to issue students an Open Water Diver course eLearning sign up code,

monitor their progress on line, and issue final certification through the eLearning system.

- Students who take advantage of this option will have a maximum of six months in which to complete the NASE Open Water Diver eLearning course. Should they allow this opportunity to pass, they will need to start over again.

Refer to the sections on Knowledge Development, Watermanship Assessment and Student/Instructor Ratios for additional requirements that apply to this option.

10.01.01.00 Required Materials and Equipment

All instructor and student equipment listed in the General Standards and Procedures is to be used during the Open Water Diver course. Additionally:

- If students are taught using dive computers in lieu of dive tables, each student is to be equipped with a personal dive computer during open water training dives (i.e., buddy teams are not to share a single dive computer).
- If computers are not used, each student is to be equipped with a depth gauge and dive watch or timer during open water training dives and have a waterproof copy of the NASE

Recreational Dive Tables. It is also permissible for the instructor and/or certified assistant to monitor the student's bottom time if each student does not have a personal timing device.

10.01.02.00 General Prerequisites

To enroll in the NASE Worldwide Open Water Diver course (this includes various training options), students must:

- Meet all of the prerequisites outlined in the NASE Worldwide General Course Standards and Procedures
- Be at least twelve years old by the start of the course

There are no prerequisite diver certifications for this level.

10.01.02.01 Special Requirements for Ten- and Eleven-Year Olds

Prior to enrolling in a NASE Open Water Diver course, students' parents or legal guardians are to read and sign the NASE Parental Responsibility for Minor Divers form.

- The maximum student-to-instructor ratio for confined or open water training dives in which there are any ten- or eleven-year-old students is four students (of any age) to one instructor. This ratio cannot be increased through the use of certified assistants. Additionally, no more than two

ten- or eleven-year-old students are to participate in any in-water training at the same time.

- A parent or legal guardian is to be present during all course activities in which a ten- or eleven-year-old is taking part.
- The maximum depth limit for divers under the age of twelve is 12 m/40 ft.
- Upon certification divers under the age of twelve are required to dive with a qualified dive leader and/or certified parent or guardian.

10.01.02.02 Watermanship and Comfort Level Assessment

Prior to certification, students in the Open Water Diver course are to demonstrate, to their instructor's satisfaction, that: they are comfortable and relaxed in the water; that they can maintain themselves in water too deep to stand; and, that they possess adequate overall fitness for safe diving. Students must be able to:

- Swim a distance of 180 m/200 yds without equipment, using any combination of strokes OR Swim a distance of 275 m/300 yds using mask, snorkel and fins

- Tread, float or drownproof in water too deep to stand for at least ten minutes

It is a general standard of practice to conduct such assessments prior to any in-water scuba training; however, there may be situations in which this is not practical, such as when students are taking part in introductory scuba experiences. In these circumstances, it is important instructors monitor students closely for overall comfort and ability prior to taking students into open water or water too deep to stand.

10.01.03.00 Student/Instructor Ratios and Supervision

All Open Water Diver course students are to be under the direct supervision of a NASE Worldwide Instructor or certified assistant at all times. Refer to General Course Standards and Procedures for more information on direct and indirect supervision.

- Students are to be under direct instructor supervision during all phases of Open Water Dive One.
- Certified assistants who have current professional liability insurance where required may independently supervise and guide students during the non-skill-assessment portion of

subsequent dives, as long as the students have demonstrated competency in mask clearing, regulator recovery and clearing, alternate air source use, and the ability to maintain depth through buoyancy control. A ratio of no more than two students per certified assistant must be maintained, while also being under the indirect supervision of a NASE instructor with active Teaching status.

- Certified assistants may also independently escort student divers to and from entry and exit points on the surface and temporarily attend to remaining students while an instructor conducts skills with other divers.
- There is no maximum student/instructor ratio for academic knowledge development and assessment. Nevertheless, smaller ratios generally result in greater learning.
- The maximum allowable student/instructor ratio during confined water training is ten students per instructor (twelve students if one or more certified assistants are used). See Special Ratios for Introductory Scuba Experiences below.
- The maximum allowable student/instructor ratio during open water training is eight students per instructor, regardless of whether or not certified assistants are

used. This ratio may be further limited, depending on how much in-water training the student has received and other factors. See Special Ratios for Introductory Scuba Experiences below.

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

10.01.03.00 Special Ratios for Introductory Scuba Experiences

As mentioned earlier, student-to-instructor ratios for confined water and open water training dives may be further limited, depending on circumstances.

- The maximum allowable student/instructor ratio during confined water training is four students per instructor.
- Until students have accrued at least 60 minutes of in-water time (confined and/or open water), and have demonstrated overall comfort in the water, the ability to follow instructor directions and the ability to remain in close proximity to the instructor at all times, the maximum student-to-instructor ratio is two-to-one.

- Once these conditions have been met, the maximum student-to-instructor ratio may increase to four-to-one, given ideal conditions.

10.01.04.00 Knowledge Development

The information applying in the section on Knowledge Development for All NASE Courses also applies to the Open Water Diver course, with the following exceptions:

- In lieu of completing the entire NASE Open Water Diver eLearning course, students taking part in introductory scuba experiences may, as an option, demonstrate mastery of The Six Rules by completing the NASE Scuba Experience pre-dive quiz and reviewing the correct answers with their instructor. Students have a number of options for preparing for this quiz, including:
  - ☐ Reading the NASE Scuba Experience eBook
  - ☐ Watching the NASE Scuba Experience video

- ☐ Going through the NASE Scuba Experience Power Point presentation with their instructor

- If students elect to continue with all confined- and open water training leading to NASE Open Water Diver certification, they must still complete the NASE Open Water Diver eLearning course. This, however, can take place after students complete all of their in-water training, such as when they return home from vacation.

10.01.05.00 In-Water Skill Development

Prior to applying the required course skills in open water, students must first develop these skills in confined water. See General Course Standards and Procedures for definitions and requirements for confined water training.

With the exception of compass and natural navigation and certain site-specific entry and exit skills that can only be introduced in open water, no student is to be asked to perform a skill in open water unless he has had the opportunity to master it first in confined water. See the section on Open Water Training below for a list of in-water skill performance objectives.

There are no minimum time requirements or number of sessions for confined water training, as each individual student's needs and abilities will be different. Nevertheless, before progressing to open water, each student must be able to demonstrate competency in all required skill performance objectives. It is up to the instructor to assess each individual student's readiness for open water training. The maximum time between in-water skill development and open water training is six months.

As previously discussed, competency is defined as the ability to meet the stated performance objective:

- Whenever asked
- Repeatedly
- Without undue stress
- Without significant error
- While maintaining neutral buoyancy

NASE does not have a rigid sequence in which skills must be introduced and mastered in confined water — although the Instructor Guide and Skill Slates provide examples of ways in which this may be accomplished. Requirements for confined water training include:

- Skill development is to progress by moving from simple to complex skills.

- Components of more complex skills are to be mastered individually before being combined with others.
- Ample time must be allowed for practice and repetition of skills, especially for those students who need additional time to gain comfort performing certain skills.
- It's better to repeat essential skills multiple times than it is to introduce unrealistic and unnecessary skills if doing so consumes time that could otherwise be used achieving mastery of required skill performance objectives.

Please refer to the Open Water Diver Course Skill Slates for a listing of recommended confined water skills and possible sequences to teach them. Instructors are free to include skills in confined water that directly relate to required skills.

> Under no circumstance, however, is the instructor to include skills designed solely to wash students out, or which require students to "bail out" of scuba systems or exchange equipment under water.

Additionally, practicing weight system and scuba unit removal and replacement under water as well as Independent Emergency

Ascents (swimming and buoyant) are to be limited solely to confined water and not repeated in open water.

The following general standards apply to confined water skill development:

- NASE Worldwide recommends that students complete all confined water sessions before participating in open water training. At the instructor's discretion, however, — and only if necessary to complete training within unavoidable time restraints — instructors may conduct some open water training dives before all confined water training has been completed. If this happens, skills must be limited to just those skills students have mastered in confined water. Students must also either successfully complete all academic requirements before any open water training takes place, or demonstrate mastery of at least The Six Rules of Scuba Diving by completing the NASE Scuba Experience Pre-Dive Quiz and reviewing the correct answers with their instructor. Final certification requires successfully completion of all academic requirements.
- Students must be given ample confined water time for learning and repetition of skills. Some individuals may require that additional confined water sessions

be scheduled to provide for repetitive learning and reinforcement.

- At the instructor's discretion, open water training may also include practice of snorkeling and/or breath-hold diving skills.

If students are taking part in a NASE Introductory Scuba Experience, they are to demonstrate comfort and mastery of the following skills in confined water prior to taking part in any open water training or experiential dives:

- ☐ Establishing positive buoyancy on the surface by inflating a BC
- ☐ Breathing from a regulator
- ☐ Regulator recovery and clearing
- ☐ Breathing from an alternate air source provided by instructor or certified assistant
- ☐ No-mask breathing
- ☐ Mask clearing
- ☐ Equalization while descending

If the goal is solely to provide participants with the opportunity to experience scuba, these skills do not need to be demonstrated during the open water dive.

10.01.06.00 Open Water Training

Open water training is where students learn to apply the skills they mastered in confined water in a realistic, open water setting. Some skills, such as compass and natural navigation, as well as certain site-specific entry and exit techniques, can only be introduced and practiced in open water.

10.01.06.01 Bottom Time and Number of Entries/Exits

During the Open Water Diver course, students are to:

- Accrue a minimum of at least 100 minutes of Actual Bottom Time (ABT) over a minimum of 4 open water dives over two days
- Assemble and disassemble their scuba units a minimum of four times
- Log a minimum of four distinct open water dives

Any time students make more than two open water training dives on a single day, instructors must consider:

- Students' motivation, readiness, and physical and mental stamina

- Whether environmental conditions are suitable for more than two training dives in a single day
- Residual nitrogen levels and surface interval time
- No more than 3 dives may be conducted in a single day

If instructors elect to make more than two training dives on a single day, the maximum depth for all dives made during the day is to be no more than 15 m/50 ft.

10.01.06.02 Minimum and Maximum Depths

- The minimum depth for skill assessments during open water training dives is 5 m/15 ft.
- The maximum depth for the first 50 minutes of open water training is 15 m/50 ft.
- The maximum depth for all subsequent bottom time is 18 m/60 ft.

10.01.06.03 Skill Performance Objectives

To be certified as NASE Worldwide Open Water Divers, students must be able to demonstrate the following abilities in confined water only:

- Remove and replace a scuba unit under water

- Remove and replace a weight system under water and at the surface in water too deep to stand
- No mask swim for 5m/15ft
- Simulate an independent emergency (out-of-air) ascent

Students are to demonstrate the following abilities in both confined and open water:

- Assemble and test a personal scuba unit as well as any other equipment required for the dives*
- Perform a pre-dive systems and safety check, using buddy assistance, as needed*
- Enter and exit the water using techniques appropriate for the dive site or dive vessel*
- Demonstrate proper weighting for environment*
- Remove and replace a scuba unit at the surface*
- Remove and replace a weight system at the surface*
- Demonstrate clearing water out of a snorkel (snorkel clearing) while on the surface.
- Be able to remove and replace a regulator second stage while underwater; clearing water out and comfortably being able

to resume breathing. This must be done on both primary and alternate air source.

- Regulator/snorkel exchange while swimming a minimum distance of 50 m/ 55 yds*
- Simulate a cramp release at the surface
- Tow another diver a distance of at least 20 m/65 ft at the surface
- Descend both with and without visual references, while equalizing and maintaining control over rate of descent (i.e., "arrive at the bottom neutral")*
- Demonstrate buoyancy control throughout the dive (including surface) through proper weighting, BC use and breath control*

Note: Mastery of buoyancy control is defined as the ability to:

- Swim effortlessly in a near-horizontal position while maintaining control over depth and direction
- Make repeated changes in depth without losing control over buoyancy

- Initiate a hover simply by stopping Note - Students who can only maintain depth by aiming fins thrust upward or downward are not demonstrating mastery of this important skill and are not ready for certification

Additionally, students must be able to:

- Simulate power inflator failure by orally inflating a BC both at the surface and under water.
- Remove, replace, and completely clear a mask full of water.*
- Remove, clear, and resume breathing from a regulator second stage that has fallen behind the shoulder.*
- Share gas with another diver using an alternate air source while both stationary and ascending. Ascents are to be made no faster than 10 m/30 ft per minute, and must include a safety stop. Each diver is to do this as both donor and receiver.*
- Monitor breathing gas supply and communicate this status with the instructor, dive leader or buddy(s) as needed.*

- Communicate with the instructor, dive leader, or buddy(s) using common hand signals.*
- Maintain buddy team cohesion by keeping team members in sight (and close enough to respond quickly in an emergency) at all times.
- Ascend at a rate of no more than 10 m/30 ft per minute, while making at least a three-minute safety stop between 3-6 m/10 and 20 ft.
- Disassemble and clean a scuba unit and other equipment and prepare it for transport (or another dive).

Students must also be able to demonstrate the following abilities in open water:

- Identify potential risks and hazards, as well as environmental and other features unique to the open water training site.
- Be able to monitor basic instruments and adhere to dive plan
- Be able to do basic underwater navigation using either compass or natural navigation. Example would be diver swimming one direction a distance of 20 m/ 65 ft following compass or natural feature and returning to starting point.

- Identify how to summon emergency medical assistance as well as how to initiate any emergency action plan that may be in place at the dive site or on the dive vessel.
- Plan a series of no-stop (no-decompression) dives using dive tables or computers, accounting for residual nitrogen time as needed.

Note: In any dive environment in which additional equipment is required, relevant training needs to be provided (e.g. an underwater navigational aid, knife/cutting device and DSMB (delayed surface marker buoy).

Finally, students are to log each dive made during open water training in the NASE Logbook or equivalent. Students should be able to record (with minimal instructor assistance):

- Dive date and location
- Maximum depth
- Actual Bottom Time (ABT)
- Starting and ending gas pressure
- Ending letter group (if using dive tables), if it can be done so accurately (i.e., if students' dive computers record average dive depth, or a substantial portion of the dive was at a relatively constant depth)

- Students should also calculate and record Surface Air Consumption (SAC) rate data. Although doing so is not essential to safety, it can help show students how their gas consumption improves as they gain more experience — and it can even be used to determine how much gas will likely be needed for upcoming dives.

10.01.07.00 Referrals

10.01.07.01 Referring NASE Students to Other Instructors

NASE Worldwide Instructors may refer students to dive operators in other locations for completion of open water training. To do so, use the NASE Worldwide Open Water Referral form.

> The referral form is fairly straightforward. All you need to do is read and follow the instructions. Of course, it is best if you can refer students to another NASE Worldwide Instructor or Dive Center; however, any instructor in teaching status with a recognized agency may complete the students' training.

Note that as the referring instructor, it is you who will issue the students' final certification card after the signed

referral form has been returned to you. A referral is valid for six months; after that time, the receiving instructor must administer a written exam and do an in-water skill review.

10.01.07.02 Accepting Referral Students From Other NASE Instructors

Again, the Referral form will help make this process simple and straightforward. Prudence dictates you should conduct a skills review and assessment in confined water before taking students whose abilities you don't know into open water.

After students have successfully completed their open water training dives, complete and sign the form (keeping copies for yourself), and give the original to the students to return to the referring instructor. If approached by referral students from other agency instructors, you will need to follow the requirements of that training agency.

10.01.08.00 Administrative Requirements

- All administrative requirements outlined in the General Standards and Procedures apply to the Open Water Diver course.

- Immediately following completion of open water training, students are to complete and sign the Acknowledgment of Safe Diving Practices and Release After Training form.

10.01.09.00 Teaching Individual Skills, Abilities

In this section, we address many of the possible ways to teach the skills covered in the NASE Open Water Diver course. As we mentioned at the beginning of this guide, where NASE General Standards and Procedures outline the things you must do when teaching this course, this guide is more along the lines of things you can do. What you will read will generally fall into one of the following categories:

- Recommended Procedures: When we say that a particular procedure is recommended, we mean that, barring factors that might make your teaching situation out of the ordinary, this is the best way we feel to accomplish a particular teaching goal.
- Possible Procedures: For the most part, however, what we present are possible ways to do things — ways that may or may not be best, depending on your needs, or which may not

even represent all of the possible ways to teach a particular skill or ability.

10.01.09.01 Refer to the Student Materials

Throughout this section, you will see us make numerous references to Section Six of the NASE Open Water Diver eBook. It is there that you will find detailed "how to" information on many of the skills covered here.

Our primary focus in this section is on how to teach a particular skill or ability, and not on how to actually do that skill. We assume that as an instructor or instructor candidate, you already have an in-depth understanding of each skill, and can do a role-model demonstration.

Nevertheless, it's important you read the corresponding sections of the book prior to going through the information you will find here. That way, you will know what it is your students have read, and can build on that understanding in your courses.

10.01.09.02 Skills Versus Abilities

In this section, you will see us talk about skills and abilities.

- A skill is a distinct ability, such as a partial mask clear, that can be taught and practiced in a single exercise.
- An ability (as we use the term here) is a capability that may combine the integration of several individual skills. For example, buoyancy control is an ability, not a "skill."

We point this out because, very often (such as in the case of buoyancy control), mastery of the component skills is not the same as competency in the overall ability. A student may master all of the component skills of buoyancy control, but unless he can demonstrate the ability to combine those skills in ways that enable him to keep his buoyancy under control at all times, he lacks the competency required for certification.

You will find that many of the topics covered in this section are organized by abilities, not by distinct skills. For example, we list all of the skills related to mask clearing in one place, as well as all of those related to buoyancy control.

10.01.09.03 Confined Versus Open Water

For the most part, we don't make a lot of distinction between teaching in confined and open water in this section. That's because there generally is not a lot of difference between how

you would conduct, say, a mask removal and replacement exercise in confined water, and how you would do the same exercise in open water. Nevertheless, there are some differences worth noting.

- In confined water, when introducing a skill for the first time, you always precede students' initial practice with a role-model demonstration by you or one of your assistants.
- In confined water, you precede each skill with a detailed briefing, outlining step by step how each skill is to be performed. In open water, you do your briefing prior to the dive and, because students should already be thoroughly familiar with each skill, limit your briefing to the performance objective, any special signals you will be using and, perhaps, a few key points to remember or information on how you will conduct the skill.
- Some skills, such as certain entry or exit techniques or compass navigation, you may only be able to introduce in open water.
- Other skills, such as independent emergency ascents, no-mask swims and equipment removal under water, are practiced only in confined water and not open water.

- Still other skills, such as those relating to buoyancy control, are not repeated in open water the same way as they are in confined water. For example, where there is a specific exercise in confined water devoted to BC low-pressure inflator use, by the time students are ready for open water, they should not need specific direction from you to keep their buoyancy under control at all times.

10.01.09.04 Equipping Your Students for Success

Diving is an equipment-intensive activity and, while equipment can never substitute for judgment and skill, having the right gear can make a huge difference in how well divers learn. Here is the equipment NASE Worldwide recommends all students have at their disposal:

- Mask, snorkel, wetsuit boots and adjustable scuba fins: Comfort and fit are important factors in the selection of all dive equipment. With these items, however, comfort and fit are so important you should require students to own their own and not rely on borrowed or rented ones.
- Full-Length Exposure Protection: It's difficult to maintain proper body position when your legs are constantly sinking. Full-length wet suits help divers maintain proper

trim by adding buoyancy where it is most needed. They provide the added benefit of helping protect against stings and abrasions under water and against sunburn topside. If you can't provide students with full-length wet suits for both confined and open water, consider requiring that students purchase a minimum of a 3 mm jumpsuit — or at least strongly recommend that they do. Such suits can be surprisingly affordable and, as most divers will vacation in tropical water at least once a year, this will help ensure they have adequate exposure protection when they do.

- Weight Belts: Yes, the overwhelming majority of BCs sold in the past two decades have integrated weight systems. In fact, NASE strongly recommends that you teach with weight integrated BCs so that students learn on the same type of equipment they are likely to buy. Nevertheless, you should — at a minimum — demonstrate proper weight belt set up and use. Better still, recommend or require that students purchase a minimum of a simple, 50 mm/2.0 in webbing-style belt. This way, their first dive vacation won't come to a screeching halt if they lose a weight pocket, and they will have a conventional weight belt they can use while free diving.

- Personal Dive Computer: NASE Worldwide gives you the option to teach dive computer use in lieu of tables. To do that, however, you will either need to equip your teaching equipment with dive computers or require that students provide their own. Regardless of whether you supply computers or not, it is a good idea for every diver to own his own computer. This way, divers will have a computer everywhere they go, and they will not have to learn how to use a different dive computer each time they dive. Simple wrist computers are more affordable than ever and, should divers upgrade to a fancier model later on, they will have that all-important backup computer in case their primary unit fails.

- Reliable Attachment Hardware: Alternate-air-source second stages and instrument consoles should never be allowed to dangle freely. Dangling equipment presents a hazard to the diver, his equipment and the environment. Make sure all your teaching regulators are equipped with reliable attachment hardware. Avoid plastic dip-molded “octopus” holders; they fail as often as not. Second stage holders that use elastic cord are more reliable. Similarly, don’t use clips designed to attach high-pressure hoses to the BC; these still allow consoles to dangle. You need a reliable snap or clip on the console itself.

10.01.10.00 Scuba Unit Assembly

This skill is covered, in detail, in Section Six of the NASE Open Water Diver eBook. Make sure you are thoroughly familiar with that information before reading this section.

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Assemble and test a personal scuba unit as well as any other equipment required for the dives.
- Disassemble and clean a scuba unit and other equipment, and prepare it for transport (or another dive).

Dive boat captains will tell you that among the most common errors they see divers make is assembling scuba units incorrectly. You can help make their lives easier (and your students safer) by giving students as many opportunities as possible to practice this skill.

10.01.10.01 Teaching Tips

- Use time effectively: Pool time is valuable and should not be wasted by painstakingly going through the basics of scuba unit assembly. Have students assemble and disassemble their scuba units at least once in the classroom or elsewhere before going to the pool for the first time. The next time (i.e., the first time at the pool), they will be able to do it faster.
- Explain the hieroglyphics: Your initial equipment assembly is a good time to explain what the various tank markings mean.
- Visualize BC positioning: Before students attach their BCs to tanks, have them become familiar with the various dump valves and inflation mechanisms. Have them do the visualization of BC positioning described later on under Buoyancy Control.
- Determine the right tank height: The catch here is that you can't really determine the right tank height until students have the opportunity to don their scuba units for the first time. As you read in the student eBook, the tank should not be so high that the first stage hits wearers in the back

of the head. Nevertheless, it must be high enough that the diver can reach back with his right hand (assuming he has normal range of motion) and reach the primary second stage hose — without having to push up on the bottom of the tank to do so. It may take a while, but once you have determined what this point is, find a way, such as a tank height adjustment strap, that allows your student to find this point easily in the future.

- "No, your other right side…" By having students pretend they are dressing an invisible diver whose back is facing them (as described in the book), you will help them better identify right from left. Get students to remember the mantra regs on right to make sure the second stages end up on the wearer's right-hand side.

- Avoid confusion: Higher-end first stages with low-pressure hoses emanating from a swiveling turret can be very confusing to students. You can help prevent confusion by following the three steps outlined in the book (i.e., "yoke screws or DIN connector towards you, high-pressure hose on left, now swivel the turret so that the regs are on the right").

- Clean up after yourself: Scuba unit disassembly is a good time to show (or at least describe) the steps involved in properly rinsing regulators and BCs after use.

10.01.10.01 Common Problems

- Incorrect tank or regulator orientation: This includes tanks facing the wrong way, regulators on upside down or backwards and yoke screws pointing into the valve orifice. Solve these problems by watching students carefully during the assembly process and correcting mistakes. Prevent it by having students carefully follow the steps outlined in the book.
- Loose cam bands: You can best identify this problem by using the method described in the book (and not by having students bounce tanks up and down on their toes). You can help prevent this problem by having students soak their cam bands in water ahead of time (if possible), and by having students pull as hard as they can on the free end of the cam band webbing as they flip the buckle over.
- Students panic when regulators start free flowing spontaneously: Solve this problem by telling students to

put their thumb over the mouthpiece opening. Prevent it by alerting students to its possibility and solution ahead of time.

10.01.11.00 Donning Masks

As with assembling scuba units, donning masks is described in detail in Section Six of the book. Read that information first before going through this section.

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Correctly don a scuba mask

Donning a mask is something we often take for granted, yet masks that flood or fog have ruined more than a few dives. This has even been a contributing cause in many accidents.

10.01.11.01 Teaching Tips

- Prevent future problems: Even though students may have short hair now, get them in the habit of donning masks correctly. They may grow their hair out later.

- Promote comfort: Neoprene comfort straps and strap covers not only prevent hair pulling, they also make donning masks easier.
- Use defog correctly: Defogging solutions generally work best if applied to a dry surface. Have students apply defog before getting masks wet.
- Don't be afraid to do it yourself: Odds are, you are better at cleaning the releasing agent off the inside of new masks than your students will ever be. Volunteer your services now and save yourself time and frustration later.

10.01.11.02 Common Problems

- Hair trapped under mask skirt: Best prevented by having students put the mask in place first, then pull the strap in place.
- Mask skirt resting on edge of hood: As described in the book, you can prevent this by pulling the hood down around the neck, donning the mask, and then sliding the hood back up over the mask strap. Unfortunately, this doesn't work if wearing a snorkel — one more reason why wearing (as opposed to just carrying) snorkels is not always a good idea.

- Masks fog constantly: The only solution to this problem may be to keep plenty of defog handy. Better to prevent it by making sure masks are thoroughly cleaned before use (check this personally), having students apply defog before masks get wet and not allowing students to constantly put their masks in the water, so that the defog gets rinsed off.

10.01.12.00 Donning Fins

Be sure to go through the corresponding information in Section Six of the eBook before reading this section.

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Correctly don scuba fins

The procedures for donning fins are largely the same whether standing or sitting. The only difference is, when standing, it is essential to hold on to a buddy or a solid object for support.

10.01.12.01 Teaching Tips

- Save strap hassles: Encourage students to purchase fins with spring heel straps or have them acquire these as after-market add-ons.
- End up facing the right way: If donning fins at the pool's edge, have both buddy team members start by facing away from the water. After donning the first fin, have each team member turn 180 degrees before donning the second. Both divers will end up facing the water, ready to enter.
- Help keep hands free: The supporting buddy can help by holding on to his partner's mask and other fin while the other buddy supports himself with one arm and dons his fin with the other.

10.01.12.02 Common Problems

- Doing a stork act: This is when students try to assume a Figure 4 position while standing unassisted or unsupported. When you see this happening, you need to intercede immediately, before students fall over and hurt themselves. It is best to prevent this through clear

instructions and demonstrations and by insisting that students work together in teams.

- Fin straps not loosened ahead of time: This makes donning fins harder. Personally check students' straps to prevent this from happening.
- Quick-release buckles not re-fastened: If you see this, stop students before they end up struggling unnecessarily. Prevent this by reminding students that quick-release buckles are best used for taking fins off, not putting them on.
- Not making a Figure 4: So that they don't struggle unnecessarily, stop students as soon as you see them doing this. This problem can generally be prevented by a clear explanation and demonstration.
- Holding fin incorrectly while donning: Prevent this by reminding students to hold their fins by the side of the foot pocket and not by the strap.
- Walking forward with fins on: Stop this when you see it and remind students to walk sideways or backward. It is better to prevent the need for walking at all by having students don

fins at the water's edge. You should mention, however, that on some dive boats, this is not possible.

10.01.13.00 Pre-Dive Systems and Buddy Check

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Perform a pre-dive systems and buddy check that ensures each diver: has his air turned all the way on and has a functioning regulator; has a functioning BC that is inflated to the proper degree; and, if using a dive computer, that the computer is working and set correctly.

Nearly every diver training organization has its own cutesy acronym or catch phrase designed to walk student through the key steps in a pre-dive systems and buddy check. Most of these acronyms suffer from three problems:

- They are hard to remember.
- They were designed for use with equipment configurations that have not been common since the 1970s.

- They are just not something real divers are likely to do — no matter how much we think they "should."

Spend time on a dive boat or at a popular shore diving site. Watch real divers who are not taking part in diver training get in the water. Do you ever see them performing anything remotely like the buddy checks described in popular diving textbooks? Do you even see instructors doing this? (Do we even have to ask?)

> Should divers in the real world be doing more thorough buddy checks? Yes — just as they "should" be doing a lot of things, such as getting more rest and eating better, that, unfortunately, are completely contrary to human nature. Is there anything to be gained by teaching divers that they "must" do something we know they won't do anyway? Probably not.

One thing we have seen in decades of watching real divers on dive boats and elsewhere is that the better ones have some sort of self check they conduct prior to every dive. The best of these ensure three things:

- The diver's air is turned on and his regulator is functioning.

- His BC is working and inflated to the correct degree (which, occasionally, means not being inflated at all).
- His computer is functioning and properly set.

In the final analysis, the best thing you can teach in terms of pre-dive systems and buddy checks is exactly what it is that you do prior to every dive. There is no hypocrisy in that — no "Do as I say, not as I do." Will students develop the same habits? The smarter ones will.

10.01.13.01 Teaching Tips

- The ABCs: There is an easy-to-remember acronym for what we described here. It's ABC, for Air, BC and Computer. No, we didn't come up with this one ourselves; however, it's so simple and easy to remember, we couldn't pass on the opportunity to share.
- Righty tighty? Lefty Loosy? The notion of right and left doesn't really apply to valve turnwheels. Use the terms clockwise and counterclockwise (anticlockwise for those of you who speak Her Majesty's English) instead. They are more accurate and clearly understood.

- Check your buddy's air? You can, or you can have your buddy check yours. Just be aware that a well-meaning buddy (or divemaster) can as easily turn air off as on. Worse, a buddy can turn your air all the way off, and then open it a partial turn. This may allow you to breathe on the surface— but starve you for air at depth. It is better to turn valves all the way off or all the way on — and to check that they are on by taking several deep breaths from the regulator while closely examining your SPG. If the air is turned all the way on, the needle or reading will hold rock steady. If the pressure reading drops or bounces, have your buddy turn your air on and then check it again.

- Look me over? Unfortunately, normal people are not likely to be comfortable looking at one another and saying things like, "Okay my fins are in place…are yours?" What is more realistic is to simply ask a buddy to give you a visual once-over, looking for items such as twisted straps, trapped hoses or fastenings that were not reconnected — and, one of our biggest pet peeves, alternate-air-source second stages and instrument consoles that are allowed to dangle freely.

10.01.13.02 Common Problems

- Not checking at all: No matter what you say and do, there will always be some students who think it is okay to jump into the water without checking anything. If you verbally walk students through their first several systems/buddy checks, you will at least keep this to a minimum.
- Air turned off/BC not properly inflated/computer not functioning or set: Again, you can prevent much of this by verbally walking students through their checks several times. The first time you elect to not do this, spot check students so that they know this is still expected of them.

10.01.14.00 Regulator Use

The NASE Open Water Diver ebook devotes several pages to regulator recovery and clearing. Read those first.

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Breathe from a regulator second stage under water

- Remove, replace and clear a regulator second stage of water, then resume breathing while maintaining airway control
- Remove, clear and resume breathing from a regulator second stage that has fallen behind the shoulder or otherwise out of sight

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There isn't much science to simply breathing from a regulator. You stick the rubber thing in your mouth. You breathe in. You breathe out. Repeat as necessary.

> Not counting test breathing the regulator during scuba unit assembly, you will most likely have students do this for the first time at the surface, while standing in shallow water. Next, you will likely have them breathe with their faces in the water.

At this point, if you follow our recommendations for teaching proper weighting, the next thing you will do is work with students to determine how much weight they will need for confined water. Once students are able to get under water, it's common to teach regulator recovery and clearing next… which brings us to an important discussion point.

10.01.14.01 Time for a Change

The way in which most instructors teach regulator recovery has not changed substantially since single-hose regulators were introduced in the 1960s. This is unfortunate, as doing so creates a potentially dangerous situation.

> In the pool, students have the luxury of taking a deep breath before casting a second stage over their shoulders and beginning to hunt for it. In the real world, regulator loss is as likely to come at the end of a deep exhalation as it is at the beginning. This doesn't leave a lot of time for hunting.

It's time diving educators recognize a lost second stage for what it is: an out-of-air emergency. And what is the best response to any out-of-air emergency? That's right: An alternate-air-source second stage.

> What we should be conditioning students to do is, as soon as they discover their primary second stage had gone missing, is to immediately locate and begin breathing from their alternate air source. Having done this, they now have all the time they need to hunt for the missing second stage. If and when they find it, and if it is still usable, they can switch back.

It's also important to remember that one possible (and not uncommon) cause of missing second stages is that the cable tie holding the mouthpiece in place may have broken or come off. When this happens, there is little benefit in rushing to find the missing second stage, as divers still won't be able to breathe from it safely. In this case, it is best to get on the alternate-air-source second stage and stay on it, while terminating the dive.

10.01.14.02 Two Methods, Two Different Situations

As should come as no surprise, there are two different methods for recovering and clearing a regulator: the sweep and the reach.

- The sweep method may only work if the regulator has fallen behind the diver's shoulder. Otherwise, the diver may be flailing around behind his back looking for a regulator second stage that is hanging right in front of him. In fact, you can only teach this method under water if students are maintaining a poor body position — that is, standing, sitting or kneeling on the bottom. If students are in the right position (i.e., horizontal, like a fish), gravity will likely cause the second stage to fall right back over the shoulder where it belongs.

- In contrast, the reach method works in any position. All that would prevent it from working is if the student was wearing his tank too low and he failed to push up on the bottom of the tank with his left hand — or, the student had limited range of motion and could not reach back over his shoulder. The latter situation is rare; the former is easily preventable by having students wear their tanks high enough.

If you want to stay true to Rule Number Six (dive like a fish), you should teach the reach method as your primary means of dealing with MIA second stages. If you teach the sweep method as well, you may want to save it for regulator recovery practice on the surface, where students would normally be in a vertical position.

Note: An exception this exists when divers use a modified-tech or similar regulator configuration in which the primary second stage hose routes itself under the user's arm. In this case, the first half of a missing second-sage hose will be behind the user's back, even if horizontal. Although the diver may be able to locate this hose simply by reaching for it with his left hand, you should also teach both the reach and sweep methods while horizontal.

10.01.14.03 Teaching Tips

- Separate or combined? Some instructors teach regulator clearing as an exercise separate from and prior to regulator recovery. Other instructors simply combine the two. There appears to be no consensus as which way is theoretically "better" — although combining both skills certainly uses time more efficiently.
- Get the positioning right: Make sure that where the primary second-stage hose emanates from the first stage is either on top of or in front of the alternate-air-source second stage hose. This way it will be the first hose students come to when doing the reach method.
- Make points: The regulator recovery exercise is a good place to stress a number of important points, such as: Keep your primary second-stage hose lying across your right shoulder when it is not in your mouths and, if you dive like a fish (i.e., horizontal), odds are you will never lose a second stage behind your shoulder.

Note the exception outlined above for divers using under-the-arm second stage hoses. These second stages should be clipped off when not in the user's mouth.

10.01.14.04 Common Problems

- No bubbles: Perhaps the most common error students make during any skill that entails taking a regulator out of their mouths is failing to exhale a steady stream of bubbles (i.e., making a continuous “Ahh” sound) when they do so. Develop a signal, such as tapping on your lips, that reminds students they need to exhale. You can help prevent this problem by continuously stressing Rule Number One: Breathe continuously — even when the regulator is out of your mouth.
- Can’t lose the reg: Students doing regulator recovery exercises often fail to get the second stage to drop behind their shoulder (especially if they are doing the right thing in terms of body position). If using the reach method, this won’t make much difference. If using the sweep method, you won’t be able to see whether students can complete the exercise correctly unless they can get the second stage behind them. This is another point in favor of teaching the reach method under water and the sweep method only at the surface (if at all).

10.01.15.00 Buoyancy Control

The NASE Open Water Diver eBook devotes more pages to buoyancy control than to any other ability. You will want to go through those pages first before reading what follows.

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Establish the correct amount of weight to wear so that, at a depth of 3-6 m/10-20 ft, with 35-70 bar/500-1,000 psi of gas remaining, divers can hover effortlessly with no air in their BCs
- Correctly inflate and deflate a BC on the surface and under water, using both oral and power inflation
- Use a BC to help establish positive buoyancy on the surface and maintain neutral buoyancy under water
- Simulate dealing with a runaway BC inflator by disconnecting its low-pressure inflator hose under water
- Demonstrate buoyancy control throughout the dive through proper weighting, BC use and breath control

Buoyancy control is an ability comprised of several component skills, ranging from proper weighting to BC use on the surface and under water. NASE Standards define competency in buoyancy control as the ability to:

- Swim effortlessly in a near-horizontal position while maintaining control over depth and direction
- Make repeated changes in depth without losing control over buoyancy
- Initiate a hover by simply stopping

Let's take a look at the component skills that help develop this ability.

10.01.15.01 Proper Weighting

A popular image used to teach the component elements of buoyancy control is the Buoyancy Control Pyramid. Think of a typical Egyptian pyramid divided into three even layers, like a cake. Because of the pyramid's shape, each layer weighs significantly more or less than the others.

- At the pyramid's peak is Breath Control — the ability to make very precise adjustments in overall buoyancy just by changing how deeply one breathes.

- The middle layer is BC Use, using a BC's air cell to compensate for exposure suit compression and expansion.
- The pyramid's foundation is Proper Weighting and, as the illustration shows, it carries more weight than the other two layers combined.

While an experienced diver might be able to compensate for improper weighting through BC use and breath control, it is very difficult for a beginner to do so while overweighted. This is why it is important to weight students properly from the beginning and never allow them to become accustomed to wearing too much weight.

A good technique to use is this:

- Start with students in waist- or chest-deep water, with masks, fins and scuba units in place.
- Have one student at a time vent his BC completely while breathing from their regulator.
- Give the student a weight to hold in each hand, and have him hold it close to where his weight pockets would be.
- Have the student lie face-forward in the water.

- If the student sinks easily, try again with less weight. If he doesn't sink at all, try again with more.
- Repeat as necessary until you find the right amount of weight (i.e., the amount that enables the student to sink slowly — but only if they exhale first).

If you have done this correctly, your students will be neutrally buoyant in shallow water with their lungs half full (mid-tidal volume).

You've no doubt seen a variety of diving textbooks state, "A properly weighted diver will float at eye level." Nonsense. Okay, if a properly weighted diver is wearing a standard-size tank and diving a thick (7 mm) wet suit, he may float at eye level. (Or, he may not.) In point of fact, the level at which a correctly weighted diver floats depends on a variety of factors, such as exposure suit type and thickness, the volume of gas likely to be consumed during the dive, etc.

> There is simply no way to determine precisely how much weight a diver needs by seeing how he floats at the beginning of a dive. The only place to truly determine how much weight a diver needs (which is always the least weight possible) is at the end of the dive, at safety-stop depth, with 35-70 bar/500-1,000 psi remaining in his tank.

This is the point in the dive at which the diver will be most buoyant and, thus, need the most weight. A properly weighted diver should be able to hover effortlessly at this point with no air in his BC.

- If you follow the procedure outlined previously, there will be no need to do any sort of surface "weight check" in confined water. Simply continue to observe how easily your students can maintain neutral buoyancy under water and, if your initial assessment of their weight needs proves to be in error, add or remove weight as needed.
- If students later progress to wearing thicker exposure suits, whether during the last confined water session or the first open water dive, a preliminary weight check may be helpful. Don't get wrapped up in how low or how high your students float in the water; just make certain they have just enough weight to initiate a slow, feet-first descent by fully exhaling. Perform the "real" weight check at the end of every dive, adjusting students' weights as needed before the next dive.

Above all, never get students in the habit of diving overweighted. Having students become accustomed to diving with the right amount of weight, from the beginning, may slow things

down a bit; however, the payoff is that your students will master buoyancy control much faster, and have little difficulty maintaining neutral buoyancy throughout confined water training.

- Teaching Tips: Always bring an assortment of small weights (0.5 kg/1.0 lb and up) with you to both confined- and open water training. Doing so will enable you to adjust student weighting more precisely.
- Common Problems: Most peoples' natural response to problems is to take a deep breath. Unfortunately, if that problem is difficulty sinking (or floating up unexpectedly), this is the worst thing students can do. Teach your students that, if they are having difficulty getting down or staying down, their first response should be to exhale as deeply as possible, followed by a slow, shallow inhalation once they have started sinking. Do not succumb to the temptation to simply throw more weight on students.

Even divers with modest lung capacity can cause shifts in overall buoyancy of up to 2.5 kg/5.0 lbs or more, simply by changing how deeply they breathe. Try this some time: Have students hold a 2.5 kg/5.0 lb weight in their hands. Ask them how heavy it feels. Then tell them, "Did you know you

can lift this weight under water simply by changing how you breathe?"

10.01.15.02 BC Familiarization

This exercise is described, in detail, in the student eBook. The best time to do it is when students are assembling scuba units for the first time, just before they attach BCs to tanks.

This exercise will not only familiarize students with the location and operation of the power inflator, oral inflator and various dump and relief valves, it will help them visualize how they need to position themselves to vent air effectively under water. This is important, as venting air from a BC is generally harder to learn than adding air.

10.01.15.03 BC Use at the Surface

This includes venting the BC completely to get under water, power inflation at the surface and oral inflation at the surface.

- You will most likely need to show students how to completely vent their BCs in shallow water, so that you can correctly establish how much weight they will need — and they can get under water on scuba.

- Before surfacing in deep water for the first time, have students practice inflating their BCs at the surface in shallow water.
- You should also have students practice orally inflating BCs on the surface in shallow water, and then do so in deeper water every time they surface from an exercise that simulates being out of air, such as alternate-air-source ascents and independent emergency ascents.

As with all BC-related skills, you want to practice these repeatedly until they are second nature. Remind students that establishing positive buoyancy on the surface is part of Rule Number Five.

- Teaching Tips: When surfacing in deep water, get students in the habit of relying solely on their BCs for support and not kicking or holding on to lane lines or the edge of the pool.
- Common Problems: When in water shallow enough to stand, students frequently fail to get the air cell fully submerged and, thus, are unable to get all of the air out. Students may also have problems orienting themselves so that the inflator hose elbow or other dump valve is at the highest point. You further need to watch and make certain no student uses his BC for an elevator ride to the surface,

10.01.15.04 BC Use Under Water (Power and Oral)

The traditional means of teaching BC use under water is the so-called fin pivot. Students (who are all too often overweighted) start by flopping on the bottom like a dead fish. They then add air to their BCs in small bursts until, finally, they reach a point where their upper bodies rise and fall in response to inhalation and exhalation.

> Unfortunately, as these students are overweighted and usually lack full-length exposure protection, their feet remain glued to the bottom. Nevertheless, their instructor pats them on the back and tells them they have now "mastered" neutral buoyancy.

This is a good time to review several important points:

- Buoyancy control is not a "skill" — any more than breathing and equalizing are: It is not an exercise students should do once or twice during the course, while content to spend the rest of the time sitting on the bottom like rocks. As much as possible, your students should be neutrally buoyant at all times. And, yes, they can learn to clear masks, recover and clear regulators, share air, etc. while neutral — which is good, as that is how they are going to have to do these skills in real life.

- "Fin pivot" exercises are unnecessary: If your students are properly weighted, they will automatically do something akin to a fin pivot while in the "Mudskipper" position in shallow water. The difference will be that, at most, your students will be resting lightly on their fin tips and not lying on their tummies like sea slugs.

So, if you don't want to be doing traditional fin pivot exercises, how are you to teach BC use under water? It's easy. You just do it.

- Start in shallow water: One at a time, have students add a small burst of air to their BCs using the power inflator. Caution students that they may need to vent that air immediately, to keep from rising to the surface. That's okay. Anybody can inflate a BC; you just push a button. They real skill is learning how to vent a BC, quickly and effectively, without letting out too much air in the process.

- Move to slightly deeper water: Once you are comfortable with students' ability to add and remove air from their BC in shallow water, move to slightly deeper water, where there will be sufficient wetsuit compression that they will genuinely need to add air to their BCs to maintain neutral buoyancy. Repeat the exercise until students are comfortable with it.

Next move to even deeper water, if it is available, and repeat the exercise again.

From this point on, tell students you expect them to use their BCs, without specifically being told to do so, so that they maintain a perpetual state of neutral buoyancy. This includes arriving at the bottom neutral during descent. Mastering buoyancy control requires lots of practice. If you limit BC practice to a few, isolated exercises, odds are your students will never master this important ability.

What about oral inflation? You will need to practice this as well. For realism, precede this exercise with one in which students pretend to deal with a runaway inflator by disconnecting their low-pressure inflator hose under water. Some key points when practicing oral inflator use under water:

- Remind students that, as soon as the regulator comes out of their mouth, they should start exhaling. Now they will just put the inflator to their lips, depress the oral inflator button, and continue exhaling into the BC.
- Be sure to save some air for regulator clearing.

- Remember that your buoyancy won't actually change until you put the regulator back in your mouth and inhale. Don't rush to blow another breath into your BC until you see how the preceding breath impacts your overall buoyancy.

You want your students to become sufficiently comfortable with BC oral inflation that they can finish at least the last five minutes of an open water training dive relying solely on their oral inflators. Nevertheless, you should remind students that oral inflation does not "save" air, as you use as much air clearing the reg as you theoretically save. It's an emergency exercise only, to be used in case of power inflator failure.

- Teaching Tips: To simulate the effect of greater exposure suit compression at depth in confined water, have each student clip on an additional 2.0 kg/4-5 lb weight. You can also use this exercise to drive home the point that overweighting unnecessarily complicates controlling buoyancy.

- Common Problems: When learning to initially inflate BCs under water, students often overcompensate (i.e., add too much air). Students need to be ready to vent air instantly if this happens — and you need to be ready to intercede if they don't.

10.01.15.05 Swimming and Resting While Maintaining Depth

As we have mentioned previously, there are no skill listings on the NASE Open Water Diver Course Skill Slates for fin pivots, power inflator use or a hovering exercise in open water — just as there are no skill listings for breathing continuously or equalizing on descent. These are not "skills" to be demonstrated once and then forgotten while students spend the balance of their time sitting or kneeling on the bottom.

> If students are truly ready for open water, arriving at the bottom neutral, hovering when not swimming and maintaining overall control over buoyancy should be something students simply do, without the need for any prompting. The key to achieving this state of readiness is to get students diving as soon as possible, in confined water.

Before moving to deeper water (i.e., the deep end), where wetsuit compression could be a factor, your students need to be acquainted with several skills, such as equalization and swimming with fins. Among these skills is how to inflate and deflate a BC under water using the low-pressure inflator (as outlined previously). Armed with these component skills, students should

be able to move from shallow water to deep, and back again, while maintaining control over buoyancy.

It's not likely students will be perfect at this — at least not to start. You will have students bounce off the bottom or float to the surface. You need to watch, assess and intercede when necessary. What is most important is that you give students plenty of opportunity, in both confined and open water, to swim while stopping, starting and maintaining depth.

In fact, one of the best things you can do whenever you take students for a swim in confined or open water is to stop frequently. This will give students the opportunity to assess whether they are truly neutral or not. If they are, they will simply hover (which is why we don't feel the need for a separate "hovering" exercise). If, instead, they sink or rise, it indicates that their buoyancy is not under control, and they need to take more active steps to manage it.

- Teaching Tips: The "Mudskipper" position, outlined earlier, is a good one to have students assume while learning skills such as regulator recovery and clearing, BC use and mask clearing. As we have mentioned, though, you want to ensure that students are ultimately able to do these while maintaining neutral buoyancy and not touching the bottom.

- Common Problems: Most of the problems students have in maintaining buoyancy while swimming stems from not following the three As of buoyancy control: not maintaining Awareness of depth, not Anticipating the possible need for a buoyancy adjustment by locating and holding on to their BCs' inflation controls preemptively when they detect a change in depth, and not Acting immediately to add or vent air as needed should they find themselves sinking or rising.

10.01.16.00 Mask Clearing

This section of the Open Water Diver Course Instructor Guide assumes you have already read and are familiar with the corresponding section on mask clearing in the NASE Open Water Diver eBook. If you have not read this section, stop and do so now before continuing. Otherwise, what you are about to read may not make sense.

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- In confined water, remove their masks, swim a distance of at least 15 m/50 ft using a tactile reference, then replace and completely clear the masks of water
- In open water, remove, replace and completely clear a mask of water

It's often said that mask clearing is the hardest skill for beginning students to master. It would be more accurate to say it's the hardest skill for some students to master. In fact, most of your students will have little difficulty with mask clearing. It's the ones who will have difficulty with this skill who will have you tearing your hair out — unless you take steps to help them before they ever get in the water.

10.01.16.01 Pre-class practice

The Open Water Diver eBook outlines the fundamental principle behind mask clearing, and the steps involved in clearing a mask, in a fairly straightforward manner. It also explains that, while most students will have little difficulty

with mask clearing, a small percentage will. These are the students who cannot instinctively separate inhaling and exhaling through their noses from doing so through their mouths.

> If you wait until students are actually in the water to identify who can and cannot clear a mask easily, you will end up wasting time and causing some of your students a lot of frustration and anxiety. You need to address this problem preemptively, starting with your initial contact with students.

Whether it is at a formal orientation session, via e-mail or over the phone, you need to alert students to the experiment outlined in the student eBook which will help determine whether or not they can separate nose and mouth breathing.

If they can, no problem. If they cannot, call their attention to the practice exercise outlined in the book that will help them control which orifice they inhale and exhale through. Stress the importance of practicing this before they arrive for confined water training. This will help reduce (and possibly even eliminate) the number of students who will have difficulty mastering this skill.

10.01.16.02 Teaching Mask Clearing in Confined Water

Prior to demonstrating and having students practice even a partial mask clear, we recommend conducting a simple no-mask breathing exercise in shallow water (not to be confused with the no-mask swim that comes later in the course). To do this:

- Start by having students take their masks off at the surface. (Remind students who are wearing contacts that they will need to keep their eyes closed during this and all similar exercises.)
- Next, have students put their regulators in their mouths and begin breathing.
- On your signal, have students put their faces in the water while continuing to breathe.
- Because students will not be able to see you, tell them to continue breathing under water while slowly counting to ten, or until they hear you make a loud noise.

If you have had students practice separate nose/mouth breathing ahead of time, you may get through this exercise without incident. If so, congratulate yourself — your students just demonstrated mastery of the hardest thing you are

ever likely to ask them to do under water, and the hardest component of mask clearing. Make your students aware of this fact as well.

> If, on the other hand, you have one or more students who inhale water and bolt to the surface (which is why this exercise needs to take place in very shallow water)…well, you have at least identified which students may need additional attention.

Remember that calling students' attention to this problem and having them practice nose/mouth breathing ahead of time will help keep the number of problem students to a minimum.

10.01.16.03 Teaching Mask Clearing in Stages

Rather than overwhelm students, most instructors teach mask clearing in stages.

- To start, they will have students clear a partially flooded mask.
- When students are comfortable with partial mask clearing, the next step will be to have students clear a fully flooded mask.

- The next step is mask removal and replacement.
- The final step is having students remove their masks, then swim a distance of 15 m/50 ft without masks, before stopping to put them back on again.

In theory, students who are having little difficulty with mask clearing could do these steps one right after another. Most instructors, however, tend to space these exercises out a bit, as doing so is a little less stressful for students who are having difficulty.

Also, you may have students who "get ahead of the game," fully flooding and clearing a mask when all you wanted was a partial clear. As they say, No harm, no foul. What you need to be concerned with is the student who only partially floods a mask when what you want is a full flood and clear.

10.01.16.04 Demonstrating Mask Clearing

At a minimum, you should demonstrate partial mask clearing before having students practice this skill. This demonstration should be done slowly and clearly, while emphasizing each step in the process.

We also recommend you demonstrate full mask clearing and mask removal and replacement prior to having students

practice these skills. While doing so may not show them anything new about the fundamental technique of mask clearing, it will at least help them form a better mental picture of exactly what it is you want them to do.

Remember that part of your demonstration will not only be how to clear a mask, but also how to flood one in the first place. We recommend simply sticking a finger under the top of the mask skirt, as this provides a degree of control over how fast the mask fills with water.

You've no doubt heard other instructors tell students to look up while clearing their masks, so that the bottom of the mask skirt is the lowest point. If you have students who are having difficulty separating nose and mouth breathing, this can be a very bad thing to do. Why? If the students can't get their mask fully clear on a single breath, looking up will increase the likelihood that they will inhale water through their nose when they stop to take a breath.

What we recommend you do instead is not teach students to look up until they are certain the last of the water is about to leave their masks. This will help prevent water from going up students' noses.

10.01.16.05 Supervising Student Practice

As you have already read, there are some skills you can safely have students practice simultaneously, and other skills you want to have students practice one at a time, while you provide direct supervision and control. Mask clearing falls in the latter category — at least for the first several times students practice it.

- Again, it is important that students not wait until you get in the water to practice the separation of nose and mouth breathing.
- Your initial practice of no-mask breathing and mask clearing needs to take place in very shallow water so that, if students do bolt, there is little risk of lung overpressure injury.
- Prior to moving to open water, you want students to be able to demonstrate that they are comfortable functioning without a mask in water too deep to stand up in. Before getting to this point, however, you need to see that students are comfortable with all phases of mask clearing in shallow water.

As a final note, simply having students practice each phase of mask clearing once is not adequate. (It's not even close to adequate.) Mask clearing is a skill that students need to practice repeatedly, until you are certain they are comfortable with it and can perform a mask removal and replacement or no-mask swim without any undue stress.

10.01.16.06 Applying Mask Clearing Skills In Open Water

Mask clearing in open water should be nothing more than an extension of what students have already demonstrated competency doing in confined water.

> Again, no students should be allowed to progress to open water until they have demonstrated an acceptable level of competency with the skills that will be applied there.

This is not to say there will not be differences between applying mask clearing skills in open water and what students practiced in confined water. For example:

- In open water, students may be exposed to salt water or water that is significantly colder than what they experienced in confined water.

- Open water may also be the first time students need to wear hoods and gloves for warmth.

As with any potential problem, you can best help deal with these differences through prevention.

- Before having students flood a mask for the first time in very cold water, many instructors will have their students "say hello to the ocean" by having them remove their masks at the surface and putting their faces in the water. This way, subsequent exposure to cold water during a mask clearing exercise will come as less of a shock.
- As we mentioned earlier, if students will need to use hoods and gloves in open water, it helps to have them use these items during at least one confined water session. (There are enough new things to get used to in open water; wearing hoods and gloves should not be one of them.)

As far as sequencing mask-clearing skills in open water, most instructors will have students do a partial mask clear on one dive, a full flood and clear on the next, and then a mask removal and replacement on yet another dive. Although one has to assume that a student who can remove, replace and clear a mask can easily do any other mask-clearing skill, the

repetition helps reinforce learning and most students find working up to mask removal and replacement in stages less stressful.

NASE does not require a no-mask swim in open water and, due to control issues, doing so is generally not a good idea.

10.01.16.07 Teaching Tips

- Up close and personal: During those first several practices, you want to maintain physical contact with students (but, as we have already discussed, not in a way they find threatening, or which prevents them from doing the skill).

10.01.16.08 Common Problems

- No holding them back: As you already know, a student who inhales water while attempting to clear a mask will most likely bolt for the surface. As we discussed earlier, this is a lose/lose situation: Whenever a student bolts for the surface, there is a slight risk of breath holding and lung overpressure injuries. But, were you actually able to hold the student down, you would only serve to heighten the sense of panic — and possibly cause drowning. Clearly, the best way to deal with these types of situations is to prevent them.

10.01.17.00 Swimming With Fins

Swimming under water is another skill covered in the student eBook. Read those pages before perusing these.

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Swim under water with fins while maintaining control over depth, direction and body position

The only fin kick your students really need to master is the standard flutter kick. Many instructors who are tech or cave divers like to teach the modified flutter and frog kick as well. That's okay; just make sure your students master at least one effective kick.

10.01.17.01 Teaching Tips

- Don't tell 'em, show 'em: Even the most inexpensive of underwater digital camera is likely to have some sort of video capture capability. While it is always possible to tell student how they can improve, nothing beats showing them. This is true of fin kicks and many other skills as well.

10.01.17.02 Common Problems

- Fish don't ride bicycles: While some students will adapt quickly to kicking with fins, others will have more difficulty. Common errors include bicycle kicking and shuffling as though on a Stairmaster. The sooner you can identify and correct these problems, the more meaningful practice students will get.
- Using hands: Stress the need for divers to keep their hands at their sides and stop and correct any hand use when you see it.

10.01.18.00 Equalization

As we defined the terms earlier, equalization is an ability, not a "skill." Nevertheless, it is an important component in many other skills, so even though there isn't a specific exercise called Equalization, this is a topic you need to address.

10.01.18.01 Teaching Tips

- "Early and often" also means preemptively: Before students descend, have them perform a Valsalva maneuver or other technique at the surface. Ask whether they hear or feel a sensation doing so. If they do, they

should have little difficulty — as long as they equalize frequently enough.

- Frequency counts: Until students gain a better feel for how easily they equalize, stress the importance of equalizing at least once for every 0.5 m/1.5 ft of descent.
- Make it a habit: Even though students may not need to equalize in waist- or chest-deep water, have them do so anyway. Get them in the habit of equalizing on every descent — no matter how shallow.
- Don't task load: Students with too much to do often get distracted and forget to equalize. Equalization takes precedence over buoyancy control, so don't take students into water deep enough to require buoyancy adjustments until you are confident in their ability to equalize.

10.01.18.02 Common Problems

- Too little, too late: The biggest single mistake students make in terms of equalization is that they wait until they feel discomfort to equalize. By then it is too late. Stress the need to equalize preemptively — and, should students ever have difficulty equalizing, they shouldn't force the issue. It won't

solve anything. Have them return to a shallower depth and start again.

10.01.19.00 Ascents and Descents

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Descend with and without a visual reference, while equalizing pressure, and maintaining near-neutral buoyancy, a proper rate of descent and buddy contact
- Ascend at a rate of no more than 10 m/30 ft per minute, while making at least a three-minute safety stop between 3 and 6 m/10 and 20 ft, and maintaining buddy contact

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In confined water, descents and ascents can include swimming from shallow water to deep water and back again, or vertical descents and ascents that originate and end in water too deep to stand. In open water, descents and ascents tend to be more vertical and can be made with and without a physical or visual reference.

10.01.19.01 Teaching Tips

- Teach the meaning of "slow:" Above water, mark off a distance of approximately 10 m/30 ft. Have the students walk it, taking no less than one minute. This will be a lot slower than students imagine. Doing so helps drive home the meaning of slow ascent.
- Remember the prerequisites: In confined water, students need to be able to equalize and make buoyancy adjustments with their BCs before swimming from shallow to deep and back. To initiate a descent (or return to the surface) in water too deep to stand, students must also be able to inflate a BC at the surface and swim at the surface.
- Follow a logical sequence: NASE does not require that you do a particular type of descent or ascent on any particular dive; however, common sense dictates you start by using an ascent/descent line or other visual or physical reference, then progress to descents and ascents with no visual reference. Remind students that, even though they need to be able to descend and ascend without a reference, using a line or bottom contour is always preferable.

- Remember your priorities: Remind students that the need to equalize trumps the need to add air to a BC; however, both are possible if students just take their time. As students descend or ascend, have them stop frequently to make sure they have just the right amount of air in their BCs.

10.01.19.02 Common Problems

- Failing to equalize preemptively during descent: This is more likely if students are distracted by a new environment or gear.
- Failure to adjust buoyancy during descent: This is more likely when students are wearing thicker exposure suits, which will compress more rapidly.
- Ascending too fast: This is where computers are really valuable; they blink or beep if students come up too fast. No computers? Have students ascend a line by placing one hand slowly over the other.
- No safety stop? Remind students that a safety stop does not have to be a literal hang on a line (although they should do that at least once). Spending the last three to five minutes of a dive while following a depth contour of

3-6 m/10-20 ft is usually more enjoyable. Just don't let students get away with blowing off a stop entirely.

10.01.20.00 Surface Swimming

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Swim a distance of at least 20 m/65 ft while floating on the surface

Although surface swimming should be avoided, it is at times unavoidable. Thus, it is an ability every diver should have. Surface swimming can be accomplished in one of two ways:

- Face down, while breathing through a regulator or snorkel
- Face up, lying on your back and swimming backwards, while breathing through your nose and mouth

In rough sea conditions, it is best to simply keep the regulator in the mouth at all times. Of course, divers need to keep enough gas in reserve to cover this contingency. Better still, try to stay under water as long as possible, and avoid the surface altogether.

10.01.20.01 Teaching Tips

- Try it both ways: For this one exercise, have students try it one time swimming face-down with snorkels; the other time swimming on their backs while breathing from their noses and mouths. Ask them which way they found less tiring and less stressful.

10.01.20.02 Common Problems

- Insufficient inflation: Students either forget to inflate their BCs upon ascending or have an inadequate amount of air in them. Have them stop and fix the problem before continuing.
- Poor kick: Students who have difficulty kicking under water may have the same difficulty on the surface. A benefit of students swimming on their backs is that it is easier to keep their feet fully submerged and, thus, kick more efficiently.

10.01.21.00 Deep Water Entries

Before delving into the following, read the corresponding section in Section Six of the Open Water Diver eBook.

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Enter deep water from a boat, dock or deck, using techniques appropriate for the dive site or dive vessel

What you will be able to teach in terms of deep-water entries will depend on where you teach and the confined and open water sites available to you. In this section, we will assume you will be teaching the giant stride — although even that is not always possible.

10.01.21.01 Teaching Tips

- Thanks, Looney Tunes: Odds are, your students grew up with Daffy Duck; therefore, they are most likely familiar with the correct position for a giant stride. It's the same one extreme skiers use. Remind them of this fact.
- Watch your weight: Prior to entering deep water, students are often taught to hold up their buddy's tank while he slides into it. Avoid this if at all possible. The popularity of weight-integrated BCs means that you could be asking a student to hold up a scuba unit that is potentially twice

the weight of a scuba tank alone. This can be dangerous. Better to teach students to rest a tank on a tank rack, picnic table, truck or SUV tailgate, etc. One buddy can hold the tank steady in this position while the other slips into it.

10.01.21.02 Common Problems

- Not positioning the push-off foot correctly: The arch of the foot needs to be centered right on the edge of the dock or deck.
- Hopping or jumping instead of stepping: Compare this exercise to stepping to the far side of a wide ditch while wearing scuba gear. Hopping or jumping won't cut it. Tell students they will have to repeat the exercise if they hop or jump instead of step. Then show them you mean it.

10.01.22.00 Deep Water Exits

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Exit deep water on to a boat, dock or deck, using techniques appropriate for the dive site or dive vessel

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As with deep water entries, what you will be able to teach in the way of deep-water exits will depend on what is available to you. Swimming pools generally afford the opportunity to teach both dive-boat (ladder) style exits as well as small-boat exits.

- Teach the dive-boat style exit exactly as you would if going up the ladder on the back of a boat. Have students approach the ladder one at a time, hold on, pass up their fins, then climb the ladder while leaning back.
- For small-boat exits, have the smaller buddy hold the larger buddy's scuba unit while he slips out of it. The larger buddy then kicks out, pulls up his scuba unit and that of the smaller buddy. The smaller buddy then kicks his way out.

10.01.22.01 Teaching Tips

- You can use time more efficiently by combining the small-boat exit with the scuba unit removal and replacement exercise. By passing up their scuba units (possibly while removing and passing up the weights first), students effectively do both scuba unit and weight removal at the surface. Have them re-enter the water and don tanks and weights there, and you will have completed three exercises at once.

10.01.22.02 Common Problems

- Not holding on to the ladder or edge: Students often forget to hold on to the ladder or pool deck while removing fins. Unfortunately, at sea, this oversight could place them down current of the boat and unable to swim back. Stop students if you see them letting go (or, as an alternative, tow them into deeper water and ask, “Now what are you going to do?”).
- Lurking in the exit area: Caution your students about hanging out immediately below an exiting diver. If the exiting diver slips and falls, you could end up with two serious injuries instead of none or one.

10.01.23.00 Cramp Removal

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Simulate a cramp release at the surface

Perhaps one of the easiest skills to teach. From a logistics standpoint, you may want to combine this with related surface skills, such as surface swims and tired diver tows.

10.01.23.01 Teaching Tips

- Prevention is better: Remind students that they can prevent the need for cramp removal by avoiding surface swims, using a variety of kicks and drinking plenty of liquids.

10.01.23.02 Common Problems

- Student can’t reach fin tip: Have the student grab the fin by the side and work his way up to the tip…or, have a buddy assist.

- Split fins: Use two hands, grab both sides.

10.01.24.00 Tired Diver Tow

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Tow another diver a distance of at least 20 m/65 ft at the surface

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Like most responsible training organizations, NASE does not try to turn beginning students into full-blown Rescue Divers. That requires that students have significantly more experience and takes as long or longer than the typical beginning scuba course.

We do, however, cover self rescue and tired-diver tows and assists. You should already be aware that there are at least three possible tows you can teach (tank pull, arm push and fin push). At a minimum, you should demonstrate and have students practice at least one.

10.01.24.01 Teaching Tips

- Try them all: If time allows, have students try all three tired-diver tows. They will be more likely to discover the one that works best for them.

10.01.24.02 Common Problems

- Not maintaining communication with the victim: A real victim would want the constant reassurance of his rescuer's voice.
- Pulling the victim's head under water: Yes, this is really bad — but it can happen if the rescuer is not paying attention.

10.01.25.00 Regulator Free Flow

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Breathe from a free flowing regulator under water

Another fairly simple skill, designed to teach students what to do in case of high-pressure seat failure or a second stage that gets stuck in the open position. NASE does not have a

minimum time requirement for this skill. Even so, you should schedule it for the very end of a confined water session, so that if you end up draining any tanks, your session won't end abruptly.

10.01.25.01 Teaching Tips

- Don't get carried away: Have students perform this exercise only long enough to establish that they are comfortable with it.
- Depress the purge button only part way: Just enough to get the regulator to free flow (not enough to empty the tank in minutes).
- Don't let students seal their lips around the mouthpiece: A drinking fountain is the best analogy to use here. Students should sip from the air stream as opposed to swallowing it whole.

10.01.25.02 Common Problems

- The mini-hurricane: This is what happens when students depress the purge button too far and then don't stop the flow in sufficient time.

- Swallowing it whole: By this we mean biting down on the mouthpiece in the normal manner, so that escaping air has nowhere to go.

10.01.26.00 Weight System Removal and Replacement

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Remove and replace a weight system at the surface
- Remove and replace a weight system under water in water too deep to stand

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How you conduct this exercise will depend largely on your student's equipment configuration.

- If students are wearing weight-integrated BCs with weight pockets, this exercise becomes idiot simple. Take a pocket out; put it back in again (without letting go). That's all it takes.
- With conventional weight belts, this skill can be a real challenge. Students can muddle through it, but it is difficult to

really do a very good job. (This exercise helps underscore why weight belts are really obsolete.)

- If students are wearing weight-integrated BCs that do not have weight pockets, you can't even do this exercise — unless you want loose weights strewn all over the bottom. For standards purposes, we say that, under these circumstances, removing and replacing this scuba unit also removes and replaces the weight system.

Note that you only do this exercise under water in confined water.

10.01.26.01 Teaching Tips

- Don't make it harder than necessary: Weight belts were designed long before jacket-style BCs; the two have never worked well together. At the surface, if students are using weight belts, consider having them remove the scuba unit first, then the weight belt — then re-don the weight belt before the scuba unit. If students are properly weighted, they should be in no danger of sinking when their BCs are off. Note, however, that this is only practical at the surface; it is not a good idea to do this under water.

- On a roll: If students are using weight belts, it is better to lie horizontal and roll into the belt, rather than trying to slide it up under the tank while resting vertically.
- Save time: As mentioned earlier, consider combining this exercise with small boat exits.

10.01.26.02 Common Problems

- Trying to get a weight pocket back into its slot: Have students try lying slightly backward so that gravity will help.
- Weight pockets not securely fastened: Double check the security of replaced weight pockets yourself.

10.01.27.00 Scuba Unit Removal and Replacement

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Remove and replace a scuba unit at the surface
- Remove and replace a scuba unit under water in water too deep to stand

Although there are many ways to do this skill, we recommend keeping it simple and having students take their scuba units off and on like a jacket. Note that you only do this exercise under water in confined water — never in open water.

10.01.27.01 Teaching Tips

- Work in teams: After all, we teach buddy diving for a reason. Have buddies assist by holding tanks upright while their teammates slip in and out of them.
- Save time: As mentioned earlier, consider combining this exercise with small boat exits.

10.01.27.02 Common Problems

- Nothing to breathe: If wearing weight belts, students may find their heads slipping under water during this exercise. So that they do not breathe water, have students keep their regulators in their mouths from start to finish. This will require students taking their left arm out first and putting it back in last.
- Can’t reach? Students often overinflate their BCs for this exercise, which causes the arm holes to float too high out of

the water. The BC should have just enough air in it so that it won't sink.

10.01.28.00 Air Depletion Exercise

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Respond correctly to a sudden loss in tank pressure

This exercise is designed to allow students to experience the feeling of bottoming out a tank (although if you have ever actually done this, it is not exactly the same). Here is how it works:

- Have the student start by facing away from you and looking directly at his SPG.
- Slowly turn the student's air off.
- Brief the student ahead of time that, when he feels his tank bottom out, he is to give the out-of-air signal but not turn to face you.

- As soon as you get the signal, immediately turn the student's air all the way back on.

This exercise is designed to take place entirely under water.

10.01.28.01 Teaching Tips

- Watch the student's SPG: This way, you can better anticipate when the student will give the out-of-air signal.
- Make it real: As you are turning the student's air back on, offer up your alternate air source, have the student take it, and finish the exercise with an alternate-air-source ascent. This, after all, would be what you would do in real life.

10.01.28.02 Common Problems

Ironically, there are seldom any problems with this exercise. The worst we can think of is if a student fails to tell you he is out of air. If you keep an eye on his SPG, you will know to turn his air back on regardless, if any significant period of time elapses after you see the pressure bottom out.

10.01.29.00 Alternate Air Source Use

Prior to reading this section, go through the information in Section Six and also the information in Section Five on how

to decide when this is the best alternative to handling an out-of-air situation.

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Share gas with another diver using an alternate air source, while both stationary and ascending. Ascents are to be made no faster than 10 m/30 ft per minute, and include a safety stop. Each diver is to do this as both donor and receiver.

Exactly how you teach this will depend, to a large degree, on equipment configuration.

- If your students are equipped with alternate-air-source inflators, then this skill only works one way: The receiver signals out of air/give me air and the donor passes his primary second stage and begins breathing from his inflator.

With conventional alternate-air-source second stages, there are two possibilities:

- The out-of-air diver can simply swim up, take his buddy's extra second stage, then communicate that "Look! I'm out of air. It's okay 'cause I've got your octo. Let's go up."
- The out-of-air diver can signal, "I'm out of air. Gimme yours" — at which point the donor can pass either of his second stages (although passing the primary will most likely be faster).

It's important to remember that if a diver is truly out of air, they may very well need gas right now — and there is no faster way to get that gas than to have the donor pass his primary second stage, rather than waste time hunting for his alternate. (We'll assume the donor, who is not out of air, can afford the few extra seconds to locate his alternate and begin breathing on it himself.)

Which way should you teach? If your students are equipped with conventional alternate-air-source second stages, we recommend having students practice it both ways: once as the "out-of-air" diver who simply comes up and takes his buddy's alternate air source and once as the donor who gives an out-of-air buddy his own primary second stage. Doing so will give students a familiarity with a broader range of options.

Positioning: This is a key element in a successful alternate-air-source ascent. The accompanying illustration (which also appears in the student eBook) shows why.

Open-water training: The NASE Open Water Diver Course Skill Slates outline a plan for conducting alternate-air-source ascent practice over the course of four open water training dives — while remaining true to the principal that every dive should have just a single descent and ascent, and every dive should end with a slow ascent and a safety stop.

The plan assumes that you have no more than four students under water with an instructor at any single time (which is our recommended maximum under all but the most ideal of conditions). On the first dive, you have one buddy team make their ascent while one team member is on his buddy's alternate. On subsequent dives, teams and members switch roles until, at the end of dive four, each student has been both a donor and a receiver.

Students not only get to practice alternate-air-source ascents in open water, they get to do so while making safety stops as well. (The ability to make slow ascents and safety stops is one of the many reasons alternate-air-source ascents are preferable to independent emergency ascents, when possible.)

10.01.29.01 Teaching Tips

- There's no power inflation at the surface: Remind students that at least one team member is going to be theoretically out of air upon surfacing. Have that student orally inflate his BC there to add to the realism.

10.01.29.02 Common Problems

- Upside down second stages: This is perhaps the most common mistake students make during this exercise. Instead of turning a second stage around while passing it to an out-of-air diver, they flip it over so that it is upside down. You need to watch for this but, better still, help prevent it by having students practice turning the second stage the right way on the surface before doing it under water.

10.01.30.00 Independent Emergency Ascents

Independent emergency ascents are covered in depth in Section Five of the student eBook. Be sure to read that section before this one.

What students need to be able to do

To be certified as NASE Open Water Divers, your students must be able to:

- Simulate an independent emergency (out-of-air) ascent in confined water

For safety and control reasons (outlined previously), NASE does not require or encourage the practice of independent emergency ascents in open water. We do recommend, however, that you have students practice this skill at least two different ways in confined water. Assuming you teach in a swimming pool (or a very similar body of confined water), start with this:

- Have students line up against the wall of the shallow end. On your signal, and without putting their regulators in their mouths, have students take a deep breath, put their faces in the water, and start exhaling by making a continuous "Ahh" sound. As they do this, have them swim the width of the pool, stopping only if they run out of breath.

Students will typically make it the full width of the pool, or at least 10 m/30 ft. This exercise accomplishes several things:

- It gives them the opportunity to practice the skill behind independent emergency ascents without the risk of lung overpressure injuries.
- It gives students a first-hand demonstration of just how successful they would likely be if they had to perform such an ascent for real.

Doing this exercise allows you to say something like:

> "You just made it over 10 m/30 ft on one lungful of air that was not expanding as it normally would on ascent. This means that, if you had been ascending, you could have made the same ascent from a depth of one atmosphere on half a lungful of air. The same principle would apply if you were even deeper. The problem is never that you don't have enough air, just how you will vent the expanding air on ascent."

Having completed this exercise with all of your students, the next step is to do it while working one-on-one with each student individually, as you either swim across the bottom, ascend from the deep end to the shallow end, or ascend vertically from the deep end. Whichever way you choose, we recommend the following:

- Position yourself face to face with your student. Hold the student's right BC shoulder strap in your left hand and, with your right, ask, "Are you okay to proceed?"
- If the student indicates Yes, give the signal to proceed.
- On your signal, the student will take a deep breath, and then begin to make the continuous "Ahh" sound while swimming in the direction you have specified.
- As the student swims, place your right hand on his second stage. This will allow you to feel the vibration caused by the continuous "Ahh" sound, in case you can't hear it.

Let the student swim to the point you have indicated, then stop the exercise. If at any point the student does not exhale, stop and wait for the student to take a shallow breath and start exhaling again before allowing him to continue.

There is no requirement that the student go a specific distance on one breath; however, the student should be able to go at least as far as he normally would before the change in pressure on ascent would allow him to get at least one shallow breath — typically 6-10 m/20-30 ft in shallow water.

10.01.30.01 Teaching Tips

- Don’t make it scary: While it is important to remind students about the dangers inherent in breath holding on scuba, don’t terrify them. Although you don’t want students to become indifferent to the dangers of running out of air, you do want them to feel that, if they ever needed to do this skill for real, it would not be all that difficult.

10.01.30.02 Common Problems

- Spitting out the regulator: Although it has been decades since any training organization has taught doing this as part of an emergency ascent exercise, for reasons passing understanding, students will occasionally attempt to do this. You can help prevent this problem by emphasizing keeping the regulator in during your briefing — and by keeping your right hand over the student’s regulator as you conduct the exercise.

10.02.00.00 Advanced Open Water Diver Course

The NASE Advanced Open Water Diver course is the second part of a two-step process designed to help create a better trained and more thoroughly prepared entry-level divers. Thus, it's not really an "Advanced" course per se, but rather a more advanced Open Water Diver course (as opposed to the basic Open Water Diver course). The Advanced program focuses on three areas:

- Review and enhancement of core diving skills
- Natural and compass navigation
- Planning and making dives to the recommended recreational depth limit of 30 m/100 ft

If time allows, instructors have the option to introduce students to any of a number of specialty diving activities.

Note: Throughout this section, we use the terms Advanced Open Water Diver course, Advanced Open Water course and Advanced course interchangeably. All refer to the NASE Advanced Open Water Diver course.

10.02.01.00 Required Materials and Equipment

See corresponding sections under General Training Standards. Additionally, you may find the following helpful:

- A guideline reel or fiberglass tape measure can be used to mark both the course and distance for the 30 m/100 ft timed/kick cycle swim.
- Each student should have his own slate to record navigation information such as kick cycles, swim times and compass headings. Use the NASE Data Record, found in the student eBook Appendix, as a guideline for setting up this slate.
- Dive lights help restore the appearance of natural color on deeper dives and can make it easier to keep track of students.
- Various props can help demonstrate the effect of color absorption and pressure at depth (but should not be distracting or cause a risk of entanglement).
- Elective specialty dives may have their own equipment requirements, such as lift bags for search-and-recovery dives.

10.02.02.00 General Prerequisites

To enroll in the NASE Worldwide Advanced Open Water Diver course, students must:

- Meet all of the prerequisites outlined in NASE Worldwide General Course Standards and Procedures
- Possess NASE Open Water Diver certification, or the equivalent from a recognized agency
- Be at least 12 years old by the start of the course.

10.02.02.01 Special Requirements for 12-to 14-Year Olds

Students who are 12 to 14 years old may participate in this course but are limited to a maximum depth of 20 m/65 ft.

10.02.02.02 Student Pre-Assessment

Students in the NASE Advanced Open Water Diver course must, at a minimum, possess the knowledge and skills of a newly certified NASE Open Water Diver prior to taking part in any open water dive activities that are not directly supervised by a NASE Instructor. Assessment of this ability may include the following:

- The instructor may have first-hand knowledge of the student's prior training and experience and be satisfied

that the student possesses the same degree of core-skill competency we insist on in all newly certified NASE divers.

- The instructor may conduct a pre-assessment of the student's abilities, if these are not already known.

The recommended procedure for assessing these abilities is to conduct a skills-assessment dive in confined or open water. This may take place on the first open water dive of the course, at a depth of no greater than 12 m/40 ft. During this dive, students must demonstrate proficiency in the following:

- Mask removal and replacement
- Regulator recovery and clearing using both reach and sweep methods
- Alternate air source use (stationary, ascending and traveling horizontal)
- The ability to swim, stop, and change depth and direction while maintaining control of buoyancy

If students are unable to demonstrate the necessary level of competency, the instructor is to conduct further review and skill practice in shallow water until students can meet the stated criteria, and before allowing the student to take part in the Advanced course navigation and deep dives. Even if student performance

meets the minimum criteria, the instructor is free to conduct additional core skills review and practice on subsequent dives.

If sufficient time has passed since a student's last dive, recommend he first take part in formal refresher training, just as you would for any diver under similar circumstances.

10.02.02.03 Student/Instructor Ratios and Supervision

A NASE Worldwide Instructor in Teaching status is to be present and in control of all Advanced Open Water Diver course activities. Except as noted below, this may be in the form of indirect supervision. See General Course Standards and Procedures for more information. Additionally, instructors must be in a position to assess student performance personally throughout the course. Examples may include:

- Watching as buddy teams tow a float during navigation exercises
- Examining student photos or videos taken during underwater imaging dives
- Having students turn in a list of aquatic plants and animals observed during an aquatic life identification dive

If student abilities cannot be assessed in this manner, then the instructor is to personally observe student performance in the water. Additionally, instructors are to provide direct supervision on any:

- Night dives
- Deep dives (dives past 20 m/65 ft)
- Wreck dives
- Drysuit dives (unless students possess prior drysuit training and experience)
- Any dive during which students simulate emergency decompression
- Any elective dive for which the corresponding Specialty Diver course standards require direct supervision

10.02.02.04 Specific Student/Instructor Ratios

- For any dives requiring indirect supervision, the maximum ratio is eight students per instructor with an additional four students per certified assistant, up to a maximum of twelve students.
- For any dives requiring direct supervision, the maximum ratio is eight students per instructor, regardless of the number of certified assistants used. Certain Specialty

Diver course standards may specify more restrictive ratios than these. If so, the more restrictive ratios take precedence for corresponding Advanced Open Water Diver course elective dives.

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

10.02.03.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses.

10.02.04.00 Open Water Training

During the NASE Advanced Open Water Diver course, students are to make five (5) dives totaling at least 150 minutes of Actual Bottom Time (ABT) under the direct or indirect supervision of a Teaching status NASE Instructor.

- At least one dive is to be to a depth of 20 m/65 ft (15 m/50 ft for students ages 12-14).
- No dive is to be in excess of 30 m/100 ft (20 m/65 ft for students ages 12-14).

- No more than three dives are to be conducted in any 24-hour period.
- The instructor may, at his discretion, include additional activities on the deep dive, including but not limited to observing color absorption at depth and the effect of artificial light on color, observing pressure's impact on various objects and other advanced course activities, as long as doing so in no way compromises student safety.

If students master the core skills before completing the required cumulative Actual Bottom Time (or if the instructor chooses to do so afterward), the instructor may choose any of the elective dives listed below to reach the 150-minute bottom time minimum so long as he is qualified to teach the corresponding Specialty Diver course. The elective dives have been chosen because they reinforce core skills.

- Digital Imaging
- Drysuit
- Naturalist
- Night
- Nitrox I and II

10.02.05.00 Teaching the Advanced Course

10.02.05.01 Extended Briefings and Debriefings

The Advanced course requires no separate classroom sessions. Information is conveyed through self study and extended briefings and debriefings. The NASE Dive Planning Checklist, found in the Appendix of the student eBook, provides a good basis on which to base pre-dive briefings. Add to this any instruction required for specific navigation, deep diving or elective skills.

10.02.05.02 General Recommendations

- Even though students have demonstrated a minimum level of competency on your core skills review and assessment dive, you can elect to repeat these skills on any dive, if doing so is beneficial. For example, while students are learning and practicing navigation skills, they can also be asked to clear a mask while neutrally buoyant or deploy a lift bag at the end of the dive.
- Practice navigation and similar skills on dry land before applying them under water. Make sure to include a review

of hand signals that specify which skill you will want them to demonstrate.

- Discuss the concept of team diving and the buddy system, and use each dive to reinforce the skills of situational awareness and team diving.
- Remind students that they will be required to meet NASE's definition of competency by performing all of the skills on demand, repeatedly, without undue stress, without significant error and while maintaining neutral buoyancy.

10.02.06.00 General Requirements

What students need to be able to do

To be certified as NASE Advanced Open Water Divers, your students must be able to:

- Prepare a detailed dive plan that includes planned and maximum depths and times, Minimum Gas Reserve (MGR) and Usable Gas values, potential risks and hazards, and environmental and other features unique to the open water training site

- Assemble and test a personal scuba unit as well as any other required equipment
- Perform a pre-dive systems and buddy check
- Enter and exit the water using techniques appropriate for the dive site or dive vessel
- Communicate with the instructor, dive leader, or buddy(s) using common hand signals
- Monitor breathing gas supply and communicate this status with the instructor, dive leader, or buddy(s) as needed
- Maintain buddy contact and team cohesion by keeping team members in sight (and close enough to respond quickly in an emergency) at all times
- Demonstrate buoyancy control throughout each dive by proper weighting, BC use, and breath control

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Most of these general requirements, including Minimum Gas Reserve (MGR), Usable Gas, advanced dive planning techniques and team diving are covered, in depth, in the Advanced course student materials. Make sure you are thoroughly familiar with these concepts before teaching this course.

10.02.07.00 Navigation

What students need to be able to do

To be certified as NASE Advanced Open Water Divers, your students must be able to:

- Swim a distance of at least 30 m/100 ft and measure the number of kick cycles it takes to cover that distance
- Without using a compass, swim under water to a point at least 100m/330 ft from the starting point, and then return to the starting point under water using only natural navigation for reference
- Follow a compass heading under water to a point at least 30 m/100 feet distant and return along a reciprocal course, passing within at least 15 degrees of the starting point
- Using an underwater compass, navigate a square of at least 10 m/35 ft on each side, passing within no more than 5 m/15 ft of the starting point
- As an alternative, students may simulate navigating at least 10 m/35 ft around an underwater obstruction by making

a series of 90-degree turns, as described in the Advanced course student materials

10.02.07.01 Teaching Tips

- Use a reel to mark off the distance for the students to follow as they measure kick cycles and arm spans. If you need to extend the line past 30 m/100 ft in order to anchor it or tie it off, tie a knot or place some kind of marker at 30 m/100 ft so the students know when to stop and turn around.
- Have the students perform the kick cycles swim twice (or as many times as bottom time permits) in order to obtain an average number of kick cycles for that distance.
- If you have an underwater watch with a sweep second hand or timer, you can repeat this exercise to get time/distance measurements. Be aware, however, that as most divers use computers that measure time solely in whole minutes, this information may be of very limited value.
- Allow the students to use the same line you set for the kick cycles swim as a reference while learning how to use a compass. During this exercise, one team member will act as

navigator and the other will be monitoring depth. Repeat to ensure both get adequate experience.

- Choose large and easily recognizable waypoints and features for the students to follow and use for the natural navigation. For example, direct student dive teams to use a compass to reach a point at a dive site such as contour line, object, or any bottom feature, and then have them use those and other features to navigate back to origination.

- As part of the compass navigation requirements, have student run a square pattern with four 90-degree headings in an area that, if possible, is of sufficient size that students will not be able to maintain a visual reference on their starting point. In lieu of a square, consider simulating navigating around an obstacle, as discussed earlier.

10.02.07.02 Common Problems

- Students getting lost: Make sure that navigation runs are done in buddy pairs; implement a procedure for lost divers or teams to follow, such as carefully surfacing together after a certain period of time. Remind students that only

one diver at a time should be running the compass in each team.

- Not maintaining depth/disorientation: Ensure students have mastered buoyancy, awareness, and communication skills in team diving.
- Students claim their compass is not working: Make sure they are holding the compass level; make sure they are using the reciprocal marks to return to their starting point.
- Students can't remember headings: Have them write the headings on their slates.

10.02.08.00 Deep Dive

What students need to be able to do

To be certified as NASE Advanced Open Water Divers, your students must be able to:

- Plan and make a dive with another diver to a depth of at least 20 m/65 ft (15 m/50 ft for students ages 12-14), staying within the no-decompression limits and Minimum Gas Reserve (MGR)

- Ascend at a rate of no more than 10 m/30 ft per minute, and then simulate an emergency decompression stop of at least five minutes at 3-6 m/10-20 ft while maintaining team contact and cohesion
- Describe the contingency plan should a diver exceed NDL by less than five minutes and more than five minutes

10.02.08.01 Teaching Tips

- Do not use tasks to gauge "narcosis" such as timed activities during dives. All this does is add opportunity for you to lose direct supervision, delay dives or show proof in a court of law that you intentionally got your students "narced." Understanding and recognition is extremely important. Stress the signs and symptoms of narcosis and the proper procedure to follow in case it occurs. After the dive, ask students about the specifics of the dive. How much can they recall? Monitor each student to see how he followed the plan and executed the dive. This is how you use this dive to teach about narcosis.
- Consider scheduling the actual Deep Dive (deeper than 20 m/65 ft) as the first dive on the second day of diving

when with new or inexperienced students. By doing core skills during these dives you will review basics such as gas sharing and buoyancy control, which will make the deep dive a better experience for students.

- Don't wait for the actual deep dive to start teaching students about gas management! Begin this earlier and reinforce it on every dive. Discuss methods for gas conservation and encourage students to see how their own management progresses throughout the course. Remind them to check their air gauge constantly. Show them your hand signal for checking their gauge.
- Discuss out-of-air situations and how deep diving will make those emergencies more difficult or even impossible.
- A descent should not be a "free fall" to race to the max depth. Ensure students are maintaining correct buoyancy on descents/ascents and avoid uncontrolled descents/ascents. Discuss how to gauge these rates by awareness and not a 100% reliance on the computer's descent/ascent feature.
- Consider doing multiple safety stops at 3 m/10 ft increments and increase times closer to surface. Stress buoyancy, communication with team/buddy, and gas management.

10.02.08.02 Common Problems

- Students forget to monitor their gas consumption and ignore their dive plan: Explain that the margin of error on a deep dive is narrow and instill the habit for students to monitor their depth, time, and remaining gas more closely on a deep dive.
- Buddy separation: Stress team diving and don't be afraid to correct diver behavior.
- Disorientation: Have students maintain a visual reference at all times.
- Narcosis: Tell students to "call" the dive if they suspect symptoms of narcosis. Don't be afraid to do so yourself if you suspect impairment in yourself or your students.
- Cold: Depending on the dive site, students may experience multiple thermoclines and very cold water at depth. Monitor students for hypothermia and potential for cold water second stage freeze up. Ensure that you and your students are prepared for this possible equipment problem.
- Low light levels: Use references and have students bring a light on the deep dive.

- Students get “lost in the dive:” Give students the “OK” hand signal and get one in return. Then signal for them to watch you.

11.00.00.00 Emergency Response Program

NASE Worldwide's Emergency Response program is a group of courses designed to help prepare divers and others to provide immediate response to almost any sort of medical emergency, whether diving related or not. These courses include:

- Basic Life Support and Basic Life Support-Diver (BLS and BLS-D)
- Oxygen Provider
- Rescue Diver
- Diving Emergency Management

11.01.00.00 Basic Life Support-Diver (BLS-D)

(Course materials and standards currently in development.)

11.02.00.00 Oxygen Provider

(Course materials and standards currently in development.)

11.03.00.00 Rescue Diver Course

This course leads to certification as a NASE Rescue Diver. The Rescue Diver course provides recreational divers with important self-rescue skills, advances their knowledge of basic first aid for diving emergencies and prepares them to begin looking beyond themselves and their buddy's needs to include other divers as well.

Instructors should be aware of local laws and requirements when teaching this program as there may be additional protocols when conducting this training. This program provides a foundation for which a diver can provide assistance in conditions similar to those in which the diver is trained. Divers are encouraged to practice the skills learned in this course in order to retain them and a rescue refresher course is recommended every two years.

11.03.01.00 Required Materials and Equipment

See corresponding sections under General Training Standards. Additionally, students and instructors must each have an oral/nasal mask (i.e., Pocket Mask™ or equivalent). Instructors should also be able to provide:

- Throw rope, throw ring, or surface float with line
- Lines to simulate entanglement
- Emergency action plan for the dive site
- First aid and oxygen kit
- Visual and audible signaling devices
- Slates for noting information needed later for debriefing or to provide during simulation
- BC weight pockets and weight belts to use during exercises and provide students familiarity with a variety of different options

11.03.02.00 General Prerequisites

To enroll in the NASE Worldwide Rescue Diver course, students must:

- Meet all of the prerequisites as outlined in the NASE Worldwide General Course Standards and Procedures
- Possess NASE Worldwide Advanced Open Water, or equivalent by a recognized agency
- Possess NASE Worldwide CPR /First Aid certification or equivalent from a recognized agency (AED training is recommended, but not required)

- Possess NASE Oxygen Provider/ Oxygen Administration or equivalent from a recognized agency

11.03.03.00 Student Pre-Assessment

Students in the NASE Rescue Diver course must, at a minimum, possess the knowledge and skills of a NASE Advanced Open Water Diver prior to taking part in any open water dive activities that are not directly supervised by a NASE Instructor. Assessment of this ability may include the following:

- The instructor may have first-hand knowledge of students' prior training and experience.
- The instructor may conduct a pre-assessment of student knowledge and skills if these abilities are not already known.

11.03.04.00 Student/Instructor Ratios and Supervision

A NASE Worldwide Instructor in Teaching status is to be present and in control of all Rescue Diver course activities. Except as noted below, this may be in the form of indirect supervision. See General Course Standards and Procedures for more information.

- Additionally, instructors must be in a position to personally assess student performance throughout the course. If student abilities cannot be personally assessed, then the instructor is to personally observe student performance in the water.
- The maximum student/instructor ratio for in-water activities is eight to one, with four additional students allowed for each certified assistant, up to a maximum of twelve.

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

11.03.05.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses.

11.03.06.00 Confined-Water Skill Development

None required unless the instructor deems necessary in pre-assessment. See section on General Prerequisites.

11.03.07.00 Open Water Training

During this course, a total time of 180 minutes Actual Bottom Time (ABT) can be applied towards any surface training exercises and scenarios. For purposes of this course only, "actual bottom time" is considered to be "in-water training time."

In general, when conducting any dive:

- Demonstrate all skills before having students practice. It's important for them to see how to perform skills correctly and aids in the learning process.
- Throughout the in-water training, instructors must emphasize the "do no harm" concept. Simply stated, this means that while acting as a rescuer, a diver must only act if he can ensure that any assistance he lends will only benefit. During all training exercises, instructors must emphasize this point and have students ask themselves "am I doing no harm?"
- Instructors may combine exercises to best meet student needs and the environment in which training is being conducted. As with all NASE training, buoyancy control is a key ability of a NASE diver. This training should emphasize

that concept and all exercises need to be performed with that expectation.

- The majority of this training will involve individual skill briefings and should allow ample time for instructors and assistants to work with students prior to "live demonstrations." Again, the focus of this course is to develop each diver to meet the definition of a NASE Rescue Diver.

- Remind students that they will be required to meet NASE's definition of competency by performing all of the skills for that particular dive on demand, repeatedly, without undue stress, and without significant error.

In the sections below, we will provide brief explanations of the core skills, provide Teaching Tips for those skills, and address Common Problems you may encounter while teaching and how to fix them.

11.03.07.01 Depth, Time, and Dive Requirements

- Due to the frequency and speed of ascents associated with Rescue Diver training, the maximum depth for any activity associated with this course is 20 m/65 ft. Whenever possible, depths should be limited to 10 m/30 ft.

- The maximum depth for any exercise in which students simulate surfacing an unconscious diver is 10 m/30 ft.
- There is no minimum number of open water dives for this course; however, students are to accrue a minimum of 180 minutes of practical skill development time. This time is to be accrued while students are developing competency in rescue techniques in the water, on the water, at the shoreline, and under water, in an open water setting.

No mandatory/required stops are permitted at any time. All dives are to be well within the no-decompression limits.

11.03.07.02 Skill Performance Objectives

To be a certified NASE Worldwide Rescue Diver, students must be able to:

- Do no harm to self or others during any assistance and/or rescue throughout the practical in-water training.

Self-Rescue Skills

- Remove line entrapment from both legs and from cylinder by themselves, both on the surface and under water

- Simulate a cramp (surface and underwater) and demonstrate correct method for removal of cramp for oneself and buddy while maintaining proper buoyancy
- Remove and replace scuba system both on the surface and under water while maintaining proper buoyancy

Surface Rescue Skills

Respond correctly by demonstrating independent performance of the procedure demonstrated by instructor to a diver simulating:

- Cramping
- Stress
- Panic
- Loss of consciousness

Demonstrate independent performance for the methods of diver tows listed below by responding in a timely manner, determining most effective towing method, and establishing positive buoyancy for diver being towed for no less than 30 m/100 ft:

- Using line
- Via equipment

- At diver's side
- From the feet
- Using flotation device

Demonstrate effective method for responding to an unconscious diver who has surfaced. Students are to:

- Select a method
- Identify any additional equipment required
- Make appropriate approach and explain why
- Make an efficient recovery and intervene as necessary
- Demonstrate effective equipment removal in water too deep to stand in while towing diver toward egress point and simulating resuscitation as outlined in student and instructor materials
- Correctly demonstrate at least two methods for removing an incapacitated diver at the water from the following dive sites (simulation and use of other divers as necessary):
  - ☐ Boat
  - ☐ Shoreline flat
  - ☐ Shoreline slope

Underwater Rescue Skills

- Perform an out-of-air exercise sharing gas with another diver as both donor and receiver while swimming horizontally no less than 15 m/50 ft. Divers are to maintain control over buoyancy throughout this exercise.
- Demonstrate the ability to assist another diver under water while maintaining proper buoyancy control, using effective communication and assessing the correct approach methods when diver is exhibiting the following:
  - ☐ Exhaustion and rapid breathing
  - ☐ Loss of buoyancy due to BC failure or lack of skill
  - ☐ Cramping in legs
  - ☐ Elevated levels of stress that will lead to panic if not remediated
  - ☐ Disorientation and/or vertigo in mid-water
  - ☐ Panicked diver
  - ☐ Conduct an underwater search pattern most effective for environment to locate missing diver
- Surface a nonresponsive diver who is simulating respiratory arrest:
  - ☐ During descent
  - ☐ At depth DEPTH MAXIUM OF 9 METERES/30 FT

- ☐ During ascent

Scenario Practice

Respond to a minimum of one “real life” scenario that represents a typical situation that a NASE Rescue Diver may encounter while recreationally diving. The Instructor shall evaluate proficiency of the students’ skills in identification of the problem, use of resources available, steps taken to properly respond, steps taken to remove the victim from the water, care of the victim, are of victim to include administering emergency oxygen and post-accident management, that demonstrate competency of the student’s rescue skills without increasing the danger to the victim and the rescue.

11.03.08.00 Teaching the Rescue Diver Course

The Rescue Diver course provides recreational divers with important self-rescue skills, advances their knowledge of basic first aid for diving emergencies and prepares them to begin looking beyond themselves and their buddy’s needs to include other divers as well.

This course focuses primarily on awareness and prevention and aims to give the student the skills and

knowledge necessary to be a safer diver and, when needed, provide assistance to a buddy. This course is limited in scope to what is necessary of a Rescue Diver and does not go into searching for lost diver, accident management, or First Aid/CPR and Oxygen provider. NASE believes that a Rescue Diver's role in may be to summon qualified assistance.

This training "ends" at the point where training begins for CPR/First Aid and Oxygen Provider. The NASE Dive Accident Management course also begins where this course ends and is intended for NASE professionals and those seeking advanced accident management training.

The course consists of at least one day of open water training dives. There is no minimum number of open water dives for this course; however, students are to accrue a minimum of 180 minutes of practical skill development time. This time is to be accrued while students are developing competency in rescue techniques in the water, on the water, at the shoreline, and underwater, in an open water setting.

During open water training students will learn, practice, and master the skills and abilities associated with identifying

risk, problem recognition and prevention, and dealing with emergencies should they occur.

11.03.09.00 Surface Rescue Skills

The surface skills are a good way to start rescue training and give ample time to discuss correct procedure and help students learn to “assess” before taking action. To make this skills time efficient, it is best to divide the class into two groups, rescuers and victims (then switch). Students are to respond correctly by demonstrating independent performance of the procedure for:

- Cramping: Have each student reach out and hold their fin tips to show how this is done. Emphasis on buoyancy control and overall ability to reach fin tips is important. During the assistance part of this skill, the rescuer will assess the problem through communication, ask the affected diver to do it himself, and then provide assistance to help the diver.
- Stress: The first step here is to learn how to recognize a potential problem before it occurs and ultimately leads to panic. The goal of this exercise is to teach the student how to recognize stress in himself and in a buddy. Discuss signs and

symptoms of stress and review the causes of stress on the surface. Have "victims" exhibit these signs and have "rescuers" identify and remediate. Emphasize the difference between apprehension, stress, and panic.

- Panic: The first step is to recognize the signs:
  - Divers attempt to "get out of the water," yet they are in the middle of a body of water
  - Rapidly paddling or clawing at the surface
  - Removing the second stage and ingesting water
- Emphasis on reducing panic by the following steps:
  - Communicate – responsive or unresponsive
  - If responsive, establish positive buoyancy by whatever means necessary
  - If unresponsive, attempt to approach victim by the following methods to help establish positive buoyancy:
    - rotate the victim by the arm
    - swim around the victim
    - swim under the victim
    - underwater approach
    - use your own BC for the victim

- ☐ In the event that the diver “attacks” the rescuer, demonstrate and have students repeat the different methods of defense and escape.

11.03.09.01 Scenarios

Procedure

- Divide the class into “victims” and “rescuers.”
- Victims simulating panic should not collaborate with rescuers and should grab them if they venture too close. Remind the victims that panicking divers do not want to return under water, so they should release their grasp if the rescuer dives.
- Leave the rescuer to choose the best way to resolve the problem.

Verify

- Did the rescuer try to talk to or reason with the victim before intervening?
- Was the intervention made correctly?

- Once grabbed by the victim, did the rescuer manage to free himself?
- Did the rescuer make the victim positively buoyant?

11.03.09.02 Rescue With the Aid of Equipment

Phase 1

Demonstrate and have students repeat the different methods to rescue a conscious diver in trouble using equipment.
The minimum gear for rescuers is mask, fins, snorkel, and a floating object; victims should also wear the scuba unit.

Launch a floating object connected to a lifeline at least 10 m/30 ft long from the shore/boat. The launch should be made twice with different objects, including:

- Lifesaving device
- Life jacket
- Plastic container
- Fender
- Wet suit enclosed in a bag
- Rescue bag
- Lifeline launching bag

Intervention in the water from a distance of at least 50 m/150 ft using a:

- Surfboard
- Baywatch board
- BC
- Any other floating object available at the site

Demonstrate and have the students repeat the following task assignments:

- Position the observers
- Initiate the rescue
- Identify the one to rescue the victim
- Identify the one prepared with the scuba unit, if necessary
- Gather emergency equipment (first aid kit and oxygen)

Procedure

- Divide the class into “victims” and “rescuers.”
- Position the victim in full gear at a distance of 10-100 m/30-300 ft.
- Victims fake being tired or in a state of panic.
- Rescuers should act in the most appropriate way (launch from shore/vessel/boat or direct intervention in the water).
- The exercise ends once the boat or shore is reached.

Verify

- If the rescuer threw a float, did it arrive to within reach of the victim?
- If the rescuer intervened in the water, did he use the most appropriate method?
- Did the rescuer demonstrate an effective ability to carry the victim to safety?

Loss of consciousness and resuscitation in open water – This exercise is probably the most challenging to many divers. We have listed it before the underwater skills to allow ample time for skill development. After an instructor or assistant demonstration, break the skill down into individual sub-skills, simple to complex. Please refer to the teaching skills and abilities in this instructor guide.

Step 1: Assessment of victim on the surface: conscious or unconscious?

- Communicate both verbally and by touch
- Protect airway
- Establish positive buoyancy by dropping weight
- Listen for respirations, look, listen, and feel

Step 2: In-water resuscitation

- Two quick breaths and then begin cadence until victim is at egress point:
  - One breath every five seconds or…
  - …two breaths every ten seconds
- Equipment removal while transporting victim: this is to be practiced, but competency at this level is not expected. The goal here is to create an awareness of the difficulty in a real rescue, and to emphasize the following:
  - The airway must be protected
  - A timely egress is imperative and the rescuer must be able to summon additional help
  - Gear removal during transport is less important than the above two points
- Demonstrate and have students repeat the various methods for resuscitation in water:
  - Mouth-to-mouth
  - Mouth-to-snorkel
  - Pocket Mask™

Phase 2

Demonstrate and have students remove both the rescuer's and victim's gear at the surface in water too deep to stand while resuscitating. Emphasize in particular:

- The correct approach
- Ensure that the victim is positively buoyant
- Check for breathing
- Call for help
- The correct number of initial inflation breaths
- Maintaining open airways
- That inflation is made every five seconds
- The removal of the weight belt should precede removal of the BC

Procedure

- Divide the class into "victims" and "rescuers." Both rescuers and victims should be wearing complete scuba gear.
- The victim should be found on the surface at least 20 m/65 ft from the rescuer.
- The water should be too deep to stand.

- The rescuer should remove all scuba gear, including both weight belts, without ever interrupting artificial respiration and without making the victim inhale water.
- If a mistake is made in the breathing rhythm (once every 5 seconds after the initial two), ensure that two consecutive inflations are given.

Evaluation

- Have all the points in Phase 2 been completed?
- Repeat the exercise, especially if:
  - ☐ There are repeated errors with the inflations
  - ☐ The nose is not closed (mouth-to-mouth/ mouth-to-snorkel)
  - ☐ One hand is not always positioned under the head for support
  - ☐ The BC is removed before the weight belt

11.03.09.03 Underwater Rescue Skills

- Exhaustion and rapid breathing
- Demonstrate how to act with a breathless diver underwater. Recognize the presence of a problem (breathless, breathing bubbles; rapid, uncoordinated

movements, etc.). Have the diver stop all activity and make sure he resumes breathing normally. Maintain physical contact with the victim and try to find a fixed object (rope, wall, rock) to hold on to.

Procedure

- Divide the class into “victims” and “rescuers.”
- Victims simulate a problem under water with consequent breathlessness and subsequent ascent (depletion of air, sensation that their regulator does not function, pulling the regulator out of the rescuer’s mouth, etc.).
- The maximum depth for this exercise is 10 m/30 ft.
- The exercise ends once the surface is reached.

Verify

- Did the rescuer try to calm the victim?
- Did the rescuer resolve the air depletion situation appropriately?
- Did the rescuer keep the situation under control?

Similarly teach and assess the following:

- Loss of buoyancy due to BC failure or lack of skill

- Cramping in legs
- Elevated level of stress that will lead to panic if not remediated
- Disorientation and/or vertigo in mid-water
- Line entanglement of legs and behind diver
- Assist a panicked diver

Surface nonresponsive diver who is simulating respiratory arrest

- During descent
- At depth
- During ascent

Demonstrate and have students repeat the various techniques listed for an ascent with an unconscious diver, emphasizing advantages and disadvantages of each:

- Ascent using the victim's BC
- Ascent using the victim's dry suit
- Removal of the victim's weight belt (only close to the surface)
- Swimming ascent holding the tank valve
- Ascent using the rescuer's BC

- Ascent using the rescuer's dry suit (the rescuer's legs should hug the victim's waist and the victim's face should be turned toward the rescuer)

Procedure

- Divide the class into "victims" and "rescuers."
- Have the students do all of the ascent techniques. Divers with dry suits will make at least one extra ascent)
- For the swimming ascent, it is necessary to use only one of the listed techniques.
- The maximum depth for the exercise is 10 m/30 ft.

Without wasting time, the rescuer should check:

- The victim's air supply
- Position of the victim (face downwards, above the bottom, etc.)
- State and correct position of equipment
- Possible cause of the accident
- If the regulator is positioned in the mouth (if not, do NOT put it back in)

Evaluation

- Was the rescuer able to bring the victim to the surface using at least one of the techniques?
- Did the rescuer check at least two of the five items suggested?

11.03.09.04 Egress

Techniques to exit the water

Phase 1

Demonstrate and have students repeat the techniques for exiting an unconscious victim from the water, bringing the victim on board a boat and/or the shore.

> Important: Students' safety is your primary concern, and injuries may occur during simulation if common sense is not used. Student must only have a basic understanding and do not need to be able to demonstrate each of the following egresses individually.

Students should try the techniques without any external aid.

Using the techniques most appropriate for the location, rescuers should use at least one technique for the boat and one for the shore. Use caution with students of unequal proportions.

Suggested water exit techniques:

- Fireman's carry
- Fireman's carry II
- Pack-strap carries
- Lifeguard exit
- Roll-up exit
- Ladder exit

Procedure

- Divide the class into teams of two or more divers.
- Have them try various exit techniques appropriate to the dive site.
- Both the rescuer and victim should wear mask and fins.
- While removing gear, the Rescue Diver should keep the victim's airways open, prevent the victim from inhaling water, and respect the inflation rhythm.

Make sure that the following factors are considered when selecting a technique:

- Victim's weight with respect to the rescuer's
- Number of available rescuers
- Type of boat or shore characteristics

Ensure that rescuers make two inflations on the unconscious victim before initiating the water exit.

Evaluation

- Was at least one of the exit techniques used correctly for the boat and one for the shore?
- Was the correct breathing rhythm maintained?
- Were two breaths given before carrying the victim out of the water?

11.03.10.00 Rescue: Scenarios

The open water scenarios aim to review and put into practice what the students learned during the practical sessions in confined water. The scenarios are not designed as individual exams, but are evaluations in the field and as such are conducted as a group.

11.03.10.01 Scenario A: Diver with a problem on the surface

Procedure

- In the course of the initial briefing, it is recommended that only important advice for maintaining security and general diving rules be given, rather than correcting the way to do the scenario.
- Place the victim (possibly an assistant instructor) about 50 m/150 ft from the boat or the shore with a slightly deflated BC.
- The victim, on the instructor's signal, should become agitated, asking for help.
- The instructor takes note of all that happens, therefore preparing for the subsequent debriefing.
- The victim, according to what was established by the instructor, can be passive or panicking, have cramps, be unconscious, or have negative buoyancy and sink slowly. Regardless, the rescue should take place on the surface, no deeper than 2 m/6 ft, so that the student, when upside down, can reach the victim.
- The scenario ends only after a victim is on shore/boat.

Evaluation

- When evaluating Rescue Divers, the instructor should take into account the fact that there is often more than one way to correctly solve a problem and small errors or imperfections in the techniques do not usually jeopardize the final result.
- Did the rescuer make the intervention correctly overall?
- Did the rescuer assign tasks effectively?
- Did the rescuer enter the water with the minimum required equipment (mask, snorkel, and fins)?
- Did the rescuer identify the causes of the victim's problem?
- Did the rescuer establish positive buoyancy for the victim?
- Were emergency procedures activated?
- Was a correct and appropriate towing technique applied?
- If available, did other rescuers, possibly using scuba gear, proceed to help?
- Was the water exit adequate for the location characteristics?

11.03.10.02 Scenario B: Surfacing Diver

Procedure

- For this scenario, it is necessary to use an assistant instructor or an object that ideally represents an unconscious diver.
- In the scenario the victim has air in his tank but has lost consciousness due to cardiac arrest.
- The scenario ends only after the victim has been removed from the water.

Evaluation

- As in scenario A, when evaluating students the instructor should keep in mind that more than one method to resolve a problem correctly often exists and that small errors or imperfections in the techniques usually do not jeopardize the final result.
- Did the rescuer intervene correctly overall?
- Did the rescuer effectively assign tasks?
- Was the most effective search method used?

- Was the victim recovered?
- Did the search last more than 30 minutes?
- Did the rescuers respect their no-decompression and air supply limits?
- Were the victims' airways always kept open?
- Was the correct artificial respiration rate of 1 to 5 maintained?
- When removing the victims' equipment, did the rescuer maintain positive buoyancy by removing the weight before the BC?
- Was the water exit appropriate for the location?

11.04.00.00 Diving Emergency Management

(Course materials and standards currently in development.)

12.00.00.00 Master Diver Course

The Master Diver course is the highest non-leadership course and provides the student extensive knowledge and diving skills. This course provides the fundamentals for progression into leadership training. Academic subject areas include diving science, physiology, diving environment, equipment, and dive planning. Students will also develop personal diving skills and become proficient in the following specialty areas including deep, navigation, night diving, search and recovery, underwater mapping, and imaging.

12.00.01.00 Required Materials and Equipment

See corresponding sections under General Training Standards.

12.01.00.00 General Prerequisites

To enroll in the NASE Worldwide Master Diver course, students must:

- Meet all of the prerequisites outlined in the NASE Worldwide General Course Standards and Procedures
- Be at least 12 years old by the start of the course
- Possess NASE Worldwide Rescue Diver, or equivalent from recognized agency
- Have completed and logged a minimum of 25 dives or 500 minutes of accumulated Actual Bottom Time (ABT)

12.02.00.00 Student Pre-Assessment

Students in the NASE Master Diver course must, at a minimum, possess the skills of a highly competent NASE Advanced Open Water Diver prior to taking part in any open water dive activities that are not directly supervised by a NASE Instructor. Assessment of this ability may include the following:

- The instructor may have first-hand knowledge of students' prior training and experience.
- The instructor may conduct a pre-assessment of student skills, if these abilities are not already known. Competency is defined as the ability to remove, replace and completely clear a mask; recover, clear, and resume breathing from a regulator using at least two methods; and share gas as both donor and receiver while stationary, ascending, and traveling horizontally — all while maintaining neutral buoyancy. Students are to be able to perform skills on demand, repeatedly, without undue stress, and without significant error. Additionally, students must be proficient in natural and compass navigation, as well as planning and making deeper dives.

12.03.00.00 Student/Instructor Ratios and Supervision

A NASE Worldwide Instructor in Teaching status is to be present and in control of all Master Scuba Diver course activities. Except as noted below, this may be in the form of indirect supervision. See General Course Standards and Procedures for more information.

Additionally, instructors must be in a position to personally assess student performance throughout the course. If student abilities cannot be assessed in this manner, then the instructor must personally observe student performance in the water.

Instructors must provide direct supervision during:

- Night dives
- Wreck dives
- Deep dives (depths greater than 20 m/65 ft)
- Dry suit dives (unless students possess prior dry suit training and experience)
- Any dive during which students simulate emergency decompression

12.03.01.00 Specific Student/Instructor Ratios

- For dives requiring indirect supervision, eight students per instructor, with an additional four students per certified assistant, up to a maximum of twelve students
- For any dives requiring direct supervision, eight students per instructor, regardless of number of certified assistants used

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

12.04.00.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses. To be certified as a NASE Worldwide Master Scuba Diver, students must cover the following academic requirements:

- Diving science
- Diving physiology
- Scuba equipment and accessories used in corresponding required dives
- Environment
- Dive planning — specific presentations are required for each specialty area and must prepare students to conduct dives safely.

12.05.00.00 Open Water Training

The NASE Worldwide Master Scuba Diver course has two options:

12.05.01.00 Option 1

Students will complete the following specialty courses and while exhibiting demonstration quality skills.

- Deep Diver
- Underwater Navigation
- Underwater Mapping
- Search and Recovery
- Night or Limited Visibility
- Underwater Imaging

If a student has a specialty from another agency in any of the above, those performance requirements may be satisfied. Each of the specialty areas above may be independent standalone courses, or part of a whole NASE Master Scuba Diver program. The instructor conducting training must ensure that the NASE skill performance objectives for each specialty course have been met.

12.05.02.00 Option 2

Students with specialty training in Deep Diving and Underwater Navigation may choose this option. Students will conduct a minimum of eight open water dives in the following core areas:

- Search and Recovery
- Night Diving
- Underwater Mapping
- Underwater Imaging

Each dive is to be organized in a way that exposes the student to a variety of realistic open water environments, allowing the student to apply skills and knowledge to new experiences. Examples include beach or shore dives, boat dives, freshwater versus saltwater dives, currents, wrecks, etc.

Dives are organized and conducted following detailed dive planning (as listed above) and focus on progressing the skill level of each student diver. Instructors need to organize dives so that skills learned on previous dives can be applied during additional dives in the course.

12.05.03.00 Bottom Time and Number of Dives

During the eight open water training dives included in the NASE Worldwide Master Scuba Diver course, students are to accrue a minimum of at least 240 minutes of Actual Bottom Time (ABT). No more than four training dives may be conducted during any 24-hour period. If doing multiple dives in a day, instructors must take into consideration students' ability to safely perform dives with respect to fatigue, nitrogen levels, comfort and overall readiness.

12.05.04.00 Minimum and Maximum Depths

The maximum depth for the NASE Worldwide Master Scuba Diver course deep dive is 40 m/130 ft. Dives must reach a minimum of 20 m/65 ft to qualify as deep dives. All other course activities are to be conducted at a depth of 20 m/65 ft or less.

12.05.05.00 Skill Performance Objectives

To be certified as a NASE Worldwide Master Diver, students must be able to:

- Prepare a detailed dive plan for each of the required core dives including planned and maximum depths and times, turnaround and minimum ascent pressures, potential risks and hazards; and environmental and other features unique to the open water training site
- Assemble and test a personal scuba unit as well as any other specialty equipment required for the dive
- Perform a pre-dive systems and buddy check
- Enter and exit the water using techniques appropriate for the dive type, site or vessel
- Communicate with the instructor, dive leader, or buddy(s) using common hand signals
- Demonstrate buoyancy control throughout each dive by proper weighting, BC use, and breath control, as demonstrated by:
  - ☐ Swimming effortlessly in a near-horizontal position while maintaining control over depth and direction
  - ☐ Making repeated changes in depth without losing control over buoyancy
  - ☐ Initiating a hover simply by stopping

Note: Students who can only maintain depth by aiming fins thrust upward or downward are not demonstrating mastery of this important skill and are not ready for certification at this level.

- Monitor breathing gas supply and communicate this status with the instructor, dive leader, or buddy(s), as needed
- Maintain buddy contact and team cohesion by keeping team members in sight (and close enough to respond quickly in an emergency) at all times
- Perform an out-of-air exercise sharing gas with another diver as both donor and receiver while swimming horizontally at no less than 15 m/50 ft Divers are to maintain control over buoyancy throughout this exercise

12.05.06.00 Skill Performance Objectives (Core Dives)

Please refer to each individual specialty course outline in the NASE Instructor Guide.

13.00.00.00 Specialty Courses

A specialty is a series of dives that present particular aspects of the recreational activity to the diver, such as deep dives, underwater imaging, drysuit diving, etc.

A specialty training course has educational value for the diver and consists of a program structured around a basic pattern. The time required to learn the ability varies from specialty to specialty and from diver to diver. Some courses can therefore require only one or two dives, while others will require many more.

> Important: what follows are general standards for NASE Specialty Courses. For information regarding required documentation, student-to-instructor ratio, depth, prerequisites, requirements, organization, and conduction of the theory, open water, and confined water lessons, consult the guidelines of the individual specialty course.

13.00.01.00 General Prerequisites

To enroll in a NASE Worldwide Specialty course, students must:

- Except as noted, be a certified as a NASE Open Water Diver or equivalent, or currently enrolled in training
- Meet all of the prerequisites outlined in the NASE Worldwide General Course Standards and Procedures
- Be at least 12 years old by the start of the course
- Have completed and logged a minimum of 100 minutes of Actual Bottom Time (ABT) or ten individual open water dives. Additionally:
  - ☐ For the Cavern Diver, Deep Diver and Wreck Diver specialties, the certification required is the NASE Advanced Open Water Diver or equivalent.
  - ☐ The Drysuit Diver and Nitrox Diver specialties may be taken in conjunction with the Open Water Diver course. Please refer to individual course standards for requirements. In these cases, specialty certification may not be granted until have completed all requirements for Open Water Diver certification.

13.00.01.01 Student Pre-Assessment

If the student is not previously known to the instructor or has been inactive for over twelve months, the instructor must make an assessment of the student's diving skills and

knowledge prior to admitting them to the NASE Specialty course. The student must be able to demonstrate proficiency in the skills and knowledge as described in the NASE Open Water Diver course standards.

13.00.01.02 Student/Instructor Ratios and Supervision

Students are to be under the supervision of a NASE Worldwide Instructor at all times. Refer to General Course Standards and Procedures for more information on direct and indirect supervision. A NASE instructor cannot accept student registrations for a specialty course if the instructor has not already obtained NASE Specialty Instructor certification for that specialty.

- There is no maximum student/instructor ratio for academic knowledge development and assessment. Nevertheless, smaller ratios generally result in greater learning.
- For any optional confined water sessions, the maximum student/instructor ratio for confined water training is eight students per instructor or ten students per instructor if supported by one or more certified assistants.

Open water training: Refer to individual course standards as some specialties may require modified student/instructor ratios and/or supervision.

Certified assistants who have current professional liability insurance where required may supervise and guide students during the dives unless specifically modified. You must use a ratio of no more than four students per certified assistant and must be under the indirect supervision of a NASE instructor with Teaching status. In this case, the certifying instructor must review and debrief each dive.

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

13.00.02.00 In-Water Skill Development

A training session in confined water is not required unless specified differently by the instructor manual of that particular specialty.

13.00.03.00 Open Water Training

Training in open water, unless specified differently in that specialty's instructor manual, is to consist of at least two distinct entries and exits. At the discretion of the NASE instructor, up to three training dives can be made in the same day. Please refer to the individual course standards for details.

Note regarding maximum depth for assessments:

Students may dive to maximum depth of certification they hold during training dives, but skill assessment are restricted to particular depth specified in course standard.

13.00.04.00 Who May Teach NASE Specialty Courses

All Teaching status NASE Instructors and above can teach the core specialties listed below without submitting a Specialty Application. However, each instructor must maintain and be able to provide, on request, documentation that demonstrates personal experience in the specialty area.

Core Specialties

- Computer
- Digital Imaging
- Drift

- Equipment
- Naturalist
- Navigation
- Night

Advanced Specialties

- Cavern
- Deep
- Diver Propulsion Vehicle
- Dry Suit
- Full Face Mask
- Ice Diver
- Nitrox (basic Nitrox and Advanced Nitrox)
- Search and Recovery
- Self-Sufficient Diver
- Sidemount
- Wreck Diver

Other recreational NASE Specialty Diver courses may require the instructor to attend workshop or apply for specific. A distinctive specialty course (instructor authored) may be submitted to NASE headquarters for approval. Authorization is only granted to instructor making submission and may be revoked at anytime.

All NASE xTEK and Public Safety instructor course ratings require separate application and approval from NASE headquarters.

13.00.05.00 Administration Requirements

All administrative requirements outlined in the General Standards and Procedures apply to the Specialty Diver courses.

13.01.00.00 Cavern Diver

This course leads to certification in cavern diving and provides the necessary skills and knowledge for safe cavern exploration. The planning, organization, procedures, techniques, limits, problems and hazards of cavern diving are covered. This includes, but is not limited to: lighting, body position (buoyancy and trim), navigating caverns, gas management, risks associated with cavern diving, limits of penetration (light zone/distance) and emergency procedures.

Cavern exploration is limited to the light zone; distance inside cavern within natural light zone and exit must always be in view. Depth plus linear penetration cannot exceed 60 m/200 ft.

13.01.01.00 Who May Teach

Only those instructors who have qualified and been approved as NASE Cavern Diver Instructors may teach these courses. To apply for Cavern Diver Instructor certification, a NASE Instructor must be:

- Certified to the NASE Cave Diver level or equivalent.
- Have logged at least 25 cave dives.

Attending a NASE Cavern Diver Instructor course is highly recommended.

13.01.02.00 Required Materials and Equipment

- See corresponding sections under General Training Standards.
- Primary dive light and backup light
- Safety reel or spool with a minimum of 30 m/100 ft
- Two line cutting devices

Additionally, instructors teaching this course are to use the same equipment required for the NASE Cave Diver course, including back-mounted double cylinders or sidemount.

13.01.03.00 Course Prerequisites

- Minimum certification required for this course is the NASE Worldwide Advanced Open Water Diver or equivalent
- Must be at least 15 years old

13.01.04.00 Student/Instructor Ratios and Supervision

- Please refer to Specialty Course Guidelines for general required ratios and supervision.

- Students in the Cavern Diver course are to be under the direct supervision of a Teaching status NASE Worldwide Instructor during all dive activities Maximum student instructor ratio is 4:1.

Note: These are the maximum allowable ratios under ideal conditions. Real world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

13.01.05.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses.

- The cavern and cave environment
- Accident analysis
- Cavern diving psychology
- Equipment requirements
- Equipment configuration
- Reels and guidelines
- Special techniques for diving in the cavern environment
- Mission Gas Reserve (MGR) and turn pressures
- Communication
- Emergency procedures

13.01.06.00 In-water Training

13.01.06.01 Bottom Time and Number of Entries/Exits

- The Cavern Diver course may consist of as many dives as needed to help ensure student competence and safety.
- Students must accrue at least 160 minutes of Actual Bottom Time (ABT) and make a minimum of four distinct entries and exits.
- No more than three training dives may be conducted per day of diving.
- One dive may take place entirely in open-water; the balance are to include time in actual caverns.

13.01.06.02 Minimum and Maximum Depths

- Minimum depth for skill assessments during open water training dives is 5 m/15 ft.
- Repetitive dives are to be conducted to either the same or a shallower depth as the preceding dive(s).

Cavern Diver training dives must be conducted during daylight hours.

13.01.06.03 Definition of a Cavern Dive

To meet the requirements of a Cavern dive for this course, training must be the primary purpose of the dive.

13.01.07.00 Skill Performance Objectives

To be certified as a NASE Worldwide Cavern Diver, students must be able to:

- Demonstrate pre-dive planning by determining dive time limits based on personal gas consumption based on the NASE Minimum Gas Reserve (MGR).
- Demonstrate the proper use and rigging of primary equipment that ensures the following: Streamlined, Easily accessible (Environmental conditions such as cold temperature require extra attention)
- Demonstrate proper trim, propulsion and buoyancy for cavern diving
- Be able to deploy/follow/retrieve line reel
  - ☐ Tie off techniques
  - ☐ Line management
  - ☐ Entanglement
  - ☐ Fouled line reel

- ☐ First in/last out
- ☐ Retrieval

- Perform gas sharing drills as both donor and receiver and swim horizontal distance of 20 m/60 ft
- Simulate mask failure and don backup while neutral and within 30 seconds
- Follow line to outside with eyes closed for a minimum distance of 20 m/60 ft
- Unconscious diver tow from inside cavern to outside and follow first response protocol
- Deploy backup light and exit cavern

13.02.00.00 Computer Diver

This course leads to certification in computer diving and provides the necessary skills and knowledge for using dive computers. The planning, organization, procedures, techniques, limits, problems and hazards of computer diving are covered.

13.02.01.00 Who May Teach

Any Teaching status NASE Worldwide Instructors may teach this course

13.02.02.00 Required Materials and Equipment

See corresponding sections under General Training Standards.

- Personal dive computer

13.02.03.00 Course Prerequisites

- Minimum certification required for this course is the NASE Worldwide Open Water Diver or equivalent

13.02.04.00 Student/Instructor Ratios and Supervision

Please refer to Specialty Course Guidelines for general required ratios and supervision.

- Students in the Computer Diver course are to be under the indirect supervision of a Teaching status NASE Worldwide Instructor.

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

13.02.05.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses.

- Describe the key indicators on dive computer
- Describe the bar graphs of dive computer
- Demonstrate how to set the dive computer for an air, non deco dive
- Demonstrate how to set the audible alarm of the dive computer

- Demonstrate how to plan a non deco dive using the dive computer
- Describe the normal mode dive screens of the dive computer
- Demonstrate how to review a dive in the dive computer log-book
- Describe the safety stop and deco stop features of the dive computer
- Describe the nitrox mode dive screens of the dive computer
- Describe how the dive computer reacts to a fast ascent
- Describe the deco mode dive screens of the dive computer
- Describe the deco procedures of the dive computer
- Describe the audible alarm of the dive computer
- Describe cleaning and maintenance procedures for the dive computer

13.02.06.00 Open Water Training

13.02.06.01 Bottom Time and Number of Entries/Exits

- The Computer Diver course may consist of as many dives as needed to help ensure student competence and safety.

- Students must accrue at least 20 minutes of Actual Bottom Time (ABT).

13.02.06.02 Minimum and Maximum Depths

- Minimum depth for skill assessments during open water training dives is 5 m/15 ft.
- Repetitive dives are to be conducted to either the same or a shallower depth as the preceding dive(s).

Computer Diver training dives must be conducted during daylight hours.

13.02.06.03 Definition of a Computer Dive

To meet the requirements of a Computer dive for this course, training must be the primary purpose of the dive

13.02.07.00 Skill Performance Objectives

To be certified as a NASE Worldwide Computer Diver, students must be able to:

- Plan a no-deco dive using dive computer
- Demonstrate proper use of the dive computer by communicating, while diving, several key dive indicators

- Demonstrate proper use of a dive computer's safety stop feature (if so equipped)
- Demonstrate proper understanding of a dive computer's log book function

13.03.00.00 Deep Diver

This course trains divers to plan and conduct recreational, non-decompression open water dives to a maximum depth of 40 m/130 ft.

13.03.01.00 Who May Teach

Only those instructors who have qualified and been approved as NASE Deep Diver Instructors may teach these courses. To apply for Deep Diver Instructor certification, a NASE Instructor must be able to document either:

- Having successfully completed either a recreational Deep Diver course, a NASE Deep Diver Specialty Instructor Training Course or a technical diving course that covered making dives to depths greater than 30 m/100 ft and having logged at least ten separate dives to depths in excess of 30 m/100 ft.
- Having made at least 20 separate dives to depths in excess of 30 m/100 ft.

13.03.02.00 Required Materials and Equipment

See corresponding sections under General Training Standards.

13.03.03.00 Course Prerequisites

- Minimum certification required for this course is the NASE Worldwide Advanced Open Water Diver or equivalent.
- Must be at least 15 years old.

13.03.04.00 Student/Instructor Ratios and Supervision

Please refer to Specialty Course Guidelines for general required ratios and supervision.

- Any dive containing an emergency decompression stop simulation must be under the direct supervision of a certified NASE Worldwide Instructor in Teaching status.
- Students in the Deep Diver course are to be under the direct supervision of a Teaching status NASE Worldwide Instructor during all dive activities taking place below 20 m/65 ft.

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

13.03.05.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses.

13.03.06.00 Open Water Training

13.03.06.01 Bottom Time and Number of Entries/Exits

- The Deep Diver course may consist of as many dives as needed to help ensure student competence and safety; however, at least two dives must qualify as deep dives, as defined below.
- Students must accrue at least 50 minutes of Actual Bottom Time (ABT) and make a minimum of two distinct entries and exits.
- No more than three training dives may be conducted per day of diving.

- If students have completed the NASE Advanced Open Water Course within the last twelve months, 25 minutes of Actual Bottom Time (ABT) from that course may apply toward this one. These students also receive credit for one separate entry and exit.

13.03.06.02 Minimum and Maximum Depths

- Minimum depth for skill assessments during open water training dives is 5 m/15 ft.
- The minimum depth to qualify as a deep dive is 20 m/65 ft and the maximum depth for open water dives is 40 m/130 ft.
- Repetitive dives are to be conducted to either the same or a shallower depth as the preceding dive(s).

Deep Diver training dives must be conducted during daylight hours.

13.03.06.03 Definition of a Deep Dive

To meet the requirements of a deep dive for this course, training must be the primary purpose of the dive.

13.03.06.04 Dive Requirements

All descents and ascents must be conducted with a visual reference, i.e. bottom contour when diving from the shore, an ascent/descent line attached to a float at the surface, or the anchor line or mooring buoy line when diving from a boat.

Deep Dives at Altitude: For all deep dives conducted during the course at altitudes between 300 m/1,000 ft and 2,400 m/8, 000 ft above sea level, the maximum depth limits must be altitude-adjusted depths. No deep training dives are to be conducted under any circumstances at altitudes above 2,400 m/8, 000 ft above sea level.

13.03.07.00 Skill Performance Objectives

To be certified as a NASE Worldwide Deep Diver, students must be able to:

- Prepare a detailed dive plan that includes total runtime and is within the no-decompression limits. Also, divers must prepare a contingency plan for the following three situations: if dive time is exceeded by greater than five minutes, less than five minutes, and if the dive exceeds maximum depth by 3 m/10 ft.

- Minimum Gas Reserve (MGR) and Usable Gas: Using the NASE Surface Air Consumption (SAC) Rate and Minimum Gas Reserve (MGR) Calculator spreadsheets, students are to establish MGR and Usable Gas values for each dive. If students have not yet established their own personal SAC rates, they will need to measure and calculate this value prior to any deep dives.
- Demonstrate situational awareness with respect to dive buddy/team and include communication and adherence to the dive plan.
- Execute a controlled descent (maximum of 21m/70 ft per minute) while demonstrating control and buddy communication. The rate should be controlled where immediate attention to a buddy can be given and the descent immediately arrested.
- Demonstrate proper buoyancy control and propulsion techniques during all phases of the dive to ensure no disruption of the bottom (i.e. silting, etc.).
- Make an ascent at a maximum rate of 10 m/30 ft per minute and execute a minimum of two separate stops prior to the final safety stop, for no less than one minute each.

- Perform a simulated emergency decompression stop: Students are to stop at a depth of 3-6 m/10-20 ft for no less than five minutes, student safety and air supply permitting, before ascending to the surface. The instructor is to ensure that students understand that planned decompression stops are outside the parameters of recreational diving.

Note: The instructor can, at his discretion, include additional activities on the deep dive, including but not limited to observing color absorption at depth and the effect of artificial light on color, observing pressure's impact on various objects and other specialty course activities, as long as doing so in no way compromises student safety.

13.04.00.00 Digital Imaging

This course trains divers in the use of a variety of underwater imaging equipment, including video and photo. This course may be conducted without supervised open water dives (e.g. students may have assignments to complete outside of class sessions).

13.04.01.00 Who May Teach

Any Teaching status NASE Worldwide Instructor may teach this course.

13.04.02.00 Required Materials and Equipment

See corresponding sections under General Training Standards. Additionally:

- Each buddy team in the NASE Underwater Imaging course is to have or be provided with their own underwater camera for all open water dives. It is acceptable for each team member to have his own camera system; however, team members need to be aware of the risks inherent in getting too focused on one's own imagery, and ignoring team safety and cohesion. If camera systems are shared,

students must be able to clearly identify their own individual work.

13.04.03.00 Course Prerequisites

- Minimum certification required for this course is the NASE Worldwide Open Water Diver or equivalent
- Be at least 12 years old by the start of the course

13.04.04.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses. To be certified as a NASE Worldwide Underwater Imaging Diver, students must cover the following academic topics:

- Exposure control
- Automatic vs. manual
- Strobe techniques
- Zoom lenses
- Macro photography
- Wide-angle photography
- Composition of underwater photography
- Understanding different file formats
- Color management

- The components to a managed work flow
- Ways to download your photos
- Backup strategies
- Selecting, maintaining, and caring for your underwater video equipment, including the housing

13.04.04.01 Underwater Video

- Videography fundamentals, such as
  - ☐ Exposure
  - ☐ Focus
  - ☐ Shot types
  - ☐ Moves
  - ☐ Shot sequencing
- Storytelling techniques
- Interaction with marine life
- The post-dive editing process where you take your raw footage and create an underwater video.

13.04.05.00 Bottom Time and Number of Entries/Exits

- Students must accrue at least 50 minutes of Actual Bottom Time (ABT) and make a minimum of two distinct entries and exits.

- No more than three training dives may be conducted per day of diving.
- If students have completed an underwater imaging dive as part of the NASE Advanced Open Water Course within the last twelve months, 25 minutes of Actual Bottom Time (ABT) from that course may apply toward this one. These students also receive credit for one separate entry and exit.

13.05.00.00 DPV (Diver Propulsion Vehicle) Diver

This course leads to certification in using a DPV (Diver Propulsion Vehicle) and provides the necessary skills and knowledge for safe DVP use. The advantages, techniques, limits, problems and hazards of DVP diving are covered. This includes, but is not limited to setup and use of DPVs and risks associated with DVP diving and limits.

13.05.01.00 Who May Teach

Only those instructors who have qualified and been approved as NASE DPV Diver Instructors may teach these courses. To apply for DPV Diver Instructor certification, a NASE Instructor must be able to document either:

- Having successfully completed either a recreational DPV Diver course or a NASE DPV Diver Specialty Instructor Training Course and have logged at least ten separate dives in which DPV.
- Having made at least 20 separate dives using DPV for each dive.

13.05.02.00 Required Materials and Equipment

See corresponding sections under General Training Standards.

- DPV per diver

13.05.03.00 Course Prerequisites

- Minimum certification required for this course is the NASE Worldwide Advanced Open Water Diver or equivalent
- Must be at least 18 years old

13.05.04.00 Student/Instructor Ratios and Supervision

Please refer to Specialty Course Guidelines for general required ratios and supervision.

- Students in the DPV Diver course are to be under the direct supervision of a Teaching status NASE Worldwide Instructor during all dive activities taking place below 20 m/65 ft.

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate

the use of more conservative ratios to ensure maximum student safety and enjoyment.

13.05.05.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses.

- Introduction to DVP diving including:
  - ☐ Advantages/disadvantages
  - ☐ Limits
  - ☐ Setup and use
- Skills
  - ☐ Entries and Exits
  - ☐ Proper riding position
- Situational awareness
- Dive planning
- Hazards
- Failures

13.05.06.00 Open Water Training

13.05.06.01 Bottom Time and Number of Entries/Exits

- The DPV Diver course may consist of as many dives as needed to help ensure student competence and safety.
- Students must accrue at least 80 minutes of Actual Bottom Time (ABT) and make a minimum of three distinct entries and exits.

13.05.06.02 Minimum and Maximum Depths

- Minimum depth for skill assessments during open water training dives is 5 m/15 ft.
- Repetitive dives are to be conducted to either the same or a shallower depth as the preceding dive(s).

DPV Diver training dives must be conducted during daylight hours.

13.05.06.03 Definition of a DPV Dive

To meet the requirements of a DPV dive for this course, training must be the primary purpose of the dive.

13.05.07.00 Skill Performance Objectives

To be certified as a NASE Worldwide DPV Diver, students must be able to:

- Demonstrate pre-dive planning by determining dive time limits based on personal gas consumption based on the NASE Minimum Gas Reserve (MGR)
- Demonstrate the proper use and rigging of primary equipment that ensures the following:
  - ☐ Streamlined
  - ☐ Easily accessible (Environmental conditions such as cold temperature require extra attention)
- Setup
  - ☐ Be able to set up DVP with optimal equipment configuration and comfort
- Operating
  - ☐ Be able to control speed based on dive team
  - ☐ Demonstrate proper communication
  - ☐ Perform a roll turn (180 degrees), thrust turn (360 degrees), yawing and coordinated turns, all while maintaining neutral position in water and in sync with dive team

- Demonstrate the following skills:
  - ☐ Tow diver
  - ☐ Tow scooter
  - ☐ Air sharing while towing diver
  - ☐ Dealing with runaway DPV
  - ☐ Neutral buoyancy (safety stop or simulated DECO) with non-running DPV
  - ☐ Proper procedure for dealing with a crash of DPV

13.06.00.00 Drift Diver

This course leads to certification in Drift Diving and provides the necessary skills and knowledge for conducting drift dives. The planning, organization, procedures, techniques, limits, problems and hazards of drift diving are covered.

13.06.01.00 Who May Teach

Only those instructors who have qualified and been approved as NASE Drift Diver Instructors may teach these courses. To apply for Drift Diver Instructor certification, a NASE Instructor must be able to document either:

- Having successfully completed either a recreational Drift Diver course or a NASE Drift Diver Specialty Instructor Training Course and have logged at least ten separate drift dives
- Having made at least ten separate drift dives

13.06.02.00 Required Materials and Equipment

See corresponding sections under General Training Standards.

13.06.03.00 Course Prerequisites

- Minimum certification required for this course is the NASE Worldwide Open Water Diver or equivalent
- Must be at least 12 years old

13.06.04.00 Student/Instructor Ratios and Supervision

Please refer to Specialty Course Guidelines for general required ratios and supervision.

- Students in the Drift Diver course are to be under the direct supervision of a Teaching status NASE Worldwide Instructor during all dive activities taking place below 20 m/65 ft.

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

13.06.05.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses.

13.06.06.00 Open Water Training

13.06.06.01 Bottom Time and Number of Entries/Exits

- The Drift Diver course may consist of as many dives as needed to help ensure student competence and safety.
- Students must accrue at least 40 minutes of Actual Bottom Time (ABT) and make a minimum of two distinct entries and exits.

13.06.06.02 Minimum and Maximum Depths

- Minimum depth for skill assessments during open water training dives is 5 m/15 ft.
- Repetitive dives are to be conducted to either the same or a shallower depth as the preceding dive(s).

Drift Diver training dives must be conducted during daylight hours.

13.06.06.03 Definition of a Drift Dive

To meet the requirements of a drift dive for this course, training must be the primary purpose of the dive.

13.06.07.00 Skill Performance Objectives

To be certified as a NASE Worldwide Drift Diver, students must be able to:

- Demonstrate the correct procedure for entry, descent and ascents for drift diving
- Demonstrate the hazards with live boating
- Deploy SMB from last safety stop and gain attention of vessel
- Explain what the lost-at-sea procedure would be for the environment in which dives took place

13.07.00.00 Drysuit Diver

This course trains divers in the use of dry suits for open water diving.

13.07.01.00 Who May Teach

Only those instructors who have qualified and been approved as NASE Drysuit Diver Instructors may teach these courses. To apply for Drysuit Diver Instructor certification, a NASE Instructor must be able to document either:

- Having successfully completed either a recreational Drysuit Diver course or a NASE Drysuit Diver Specialty Instructor Training Course
- Having made at least 20 separate drysuit dives

13.07.02.00 Course Prerequisites

To take part in the Drysuit Diver course, students must:

- Be at least 12 years old by the start of the course.

Additionally, students must either:

- Be certified to at least the NASE Worldwide Open Water Diver level or equivalent, or…

- Take this course concurrently with the NASE Worldwide Open Water Diver course

If taken in conjunction with the Open Water Diver course:

- Students are to make at least one confined water dive in dry suits prior to using a dry suit in open water
- Drysuit Diver certification is not to be issued until students have met all requirements for Open Water Diver certification

13.07.03.00 Required Materials and Equipment

See corresponding sections under General Training Standards. Additionally, students need a modern drysuit, with all of the safety features.

13.07.04.00 Student/Instructor Ratios and Supervision

Please refer to Specialty Course Guidelines general required ratios and supervision.

- Students in the Drysuit Diver course are to be under the direct supervision of a Teaching status NASE Worldwide Instructor during all dive activities.

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

13.07.05.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses.

13.07.06.00 Open Water Training

13.07.06.01 Bottom Time and Number of Entries/Exits

- Students must accrue at least 40 minutes of Actual Bottom Time (ABT) and make a minimum of two distinct entries and exits.
- No more than three training dives may be conducted per day of diving.
- If students have completed a drysuit dive as part of the NASE Advanced Open Water Course within the last twelve months, 25 minutes of Actual Bottom Time (ABT) from that course may apply toward this one. These students also receive credit for one separate entry and exit.

13.07.06.02 Minimum and Maximum Depths

- Minimum depth for skill assessments during open water training dives is 5 m/15 ft
- Maximum depth for skill assessment is 20 m/65 ft

13.07.07.00 Skill Performance Objectives

To be certified as a NASE Worldwide Drysuit Diver, students must be able to:

- Calculate correct weight and perform a surface weight check for the type of dry suit to be used
- Perform proper feet-first or horizontal descent while adding enough gas to suit to prevent suit squeeze
- Throughout the dive, demonstrate proper buoyancy as defined in the NASE Open Water Diver course
- Disconnect and reconnect the low-pressure inflation hose from the drysuit inflation valve while swimming under water
- Demonstrate neutral buoyancy underwater with the inflation and deflation valves in the open position

- Demonstrate a technique to counteract excess air in the feet (simulation)
- Demonstrate a technique to counteract flooding of the drysuit (simulation)
- Demonstrate a technique to counteract blockage of the inflation valve (simulation)
- Demonstrate a technique to counteract blockage of the deflation valve (simulation)
- Demonstrate a technique to counteract loss of the weight system (simulation)
- Make a safe ascent and perform a safety stop for no less than 5 minutes at 5 m/15 ft
- Remove and replace the scuba unit and weight system on the surface

13.08.00.00 Equipment Specialist

This course explains how to properly maintain and care for your diving equipment and provides an overview of how scuba systems work. This course does not train students to service life support equipment.

13.08.01.00 Who May Teach

Teaching status NASE Worldwide Instructors may teach this course.

13.08.02.00 Required Materials and Equipment

See corresponding sections under General Training Standards.

13.08.03.00 Course Prerequisites

- Minimum certification as NASE Worldwide Open Water Diver or equivalent
- Minimum age of 12 years old

13.08.04.00 Instructor Materials

Currently, this course utilizes a variety of equipment manuals, repair guides and owner's manuals to convey the course

information to the student. Most instructors typically choose to conduct this course at a dive center's repair facility. This course is not intended and is not recognized as a "manufacturers repair certification" but is rather a detailed discussion about how scuba equipment works and how to properly care for and maintain it.

13.08.05.00 Student/Instructor Ratios and Supervision

Please refer to Specialty Course Guidelines for general required ratios and supervision.

- Assistant Instructors who have current professional liability insurance where required may independently teach this program.
- There is no maximum student/instructor ratio for academic knowledge development and assessment. Nevertheless, smaller ratios generally result in greater learning.

13.08.06.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses. To be certified as a NASE Worldwide Equipment Specialist, students must be able to:

- Identify the types, cleaning processes, and special features of diving equipment commonly used on recreational dives.
- Describe the difference between balanced and unbalanced regulators and explain:
  - ☐ Upstream valves
  - ☐ Fail safe
  - ☐ How a piston regulator functions
  - ☐ How a diaphragm regulator functions
  - ☐ Limitations on regulators and how to choose a proper regulator
  - ☐ General cleaning and service requirements
- Identify and explain the function of the following instruments:
  - ☐ Submersible pressure gauge (understand how a Bourdon tube functions and its limitations)
  - ☐ BC (describe its basic function, understand the power inflator mechanics and possible failures, and understand general cleaning and service requirements)
- Identify the most common cylinders used in diving and the following:
  - ☐ Understand the difference between K-valves, J-valves, and DIN valves

- ☐ Annual maintenance (visual inspection overview)
- ☐ Hydrostatic testing
- ☐ Hazards with compressed gas cylinders
- ☐ List all the recommended components of a personal repair kit for recreational diving
- ☐ What type of general maintenance the user can perform
- ☐ Discuss the importance of a factory trained technician

13.09.00.00 Full Face Mask Diver

The purpose of this course is to train divers with the necessary procedures, knowledge and skills to dive with a Full face mask (FFM). Upon successful completion of this course, graduates may engage in FFM diving activities in conditions and with equipment similar to those in which they were trained.

13.09.01.00 Who May Teach

Only those instructors who have qualified and been approved as NASE Full Face Mask Instructors may teach this course. To apply for Full Face Mask Diver Instructor certification, a NASE Instructor must be able to document either:

- Having successfully completed either a recreational Full Face Mask Diver course or a NASE Full Face Mask Diver Specialty Instructor Training Course and have logged at least ten separate dives in which Full Face Mask was used.

13.09.02.00 Required Materials and Equipment

See corresponding sections under General Training Standards.

- Each student must have full face mask appropriate for recreational diving as the primary air source

13.09.03.00 Course Prerequisites

- Minimum certification required for this course is the NASE Worldwide Open Water Diver or equivalent
- Must be at least 18 years old

13.09.04.00 Student/Instructor Ratios and Supervision

Please refer to Specialty Course Guidelines for general required ratios and supervision.

- Students in the Full Face Mask Diver course are to be under the direct supervision of a Teaching status NASE Worldwide Instructor during all dive activities.

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

13.09.05.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses. To be certified as a NASE Worldwide Full Face Mask Diver, students must be able to:

- Describe the function of a full face mask and the difference between demand and positive pressure masks
- Demonstrate the proper equalization techniques
- Explain the proper set-up for full face mask with respect to correct use and emergency procedures
- Explain the correct procedure for gas loss for diver and/or teammate

13.09.06.00 Open Water Training

13.09.06.01 Bottom Time and Number of Entries/Exits

- The Full Face Mask Diver course may consist of as many dives as needed to help ensure student competence and safety.
- Students must accrue at least 60 minutes of Actual Bottom Time (ABT) and make a minimum of Full Face Mask two distinct entries and exits.

13.09.06.02 Minimum and Maximum Depths

- Minimum depth for skill assessments during open water training dives is 5 m/15 ft.

- Maximum depth for skill assessments during open water training dives is 20 m/65 ft.
- Repetitive dives are to be conducted to either the same or a shallower depth as the preceding dive(s).
- Full Face Mask Diver training dives must be conducted during daylight hours.

13.09.06.03 Definition of a Full Face Mask Dive

To meet the requirements of a Full Face Mask dive for this course, training must be the primary purpose of the dive.

13.09.07.00 Skill Performance Objectives

To be certified as a NASE Worldwide Full Face Mask Diver, students must be able to:

- Demonstrate understanding of the techniques to properly execute a dive
- Properly assemble full face mask and related equipment
- Properly adjust mask straps
- Properly execute the planned dive within all predetermined limits making a proper descent, ascent, and appropriate stops

- Breath from a free flowing mask for a minimum of 30 seconds
- Demonstrate emergency bailout to alternate air source within 30 seconds while swimming, during an ascent, and during a safety stop
- Properly equalize while wearing a full face mask (FFM) while diving
- Clearing a partially flooded mask
- Remove and replace full face mask underwater
- Be able to remove full face mask, don replacement mask, and use deploy air source
- Perform an Alternate air source ascent as a donor with FFM and as receiver without FFM
- Properly demonstrate mask cleaning and storage practices
- Execute the proper surface rescue procedure for an individual who has fallen through the ice or into open water

13.10.00.00 Ice Diver

(Course materials and standards currently in development.)

13.11.00.00 Naturalist

This course trains divers to use scientific methods for data collection and to identity flora and fauna specific to the training location.

13.11.01.00 Who May Teach

Teaching status NASE Worldwide Instructors may teach this course.

13.11.02.00 Required Materials and Equipment

See corresponding sections under General Training Standards.

13.11.03.00 Course Prerequisites

To take part in the Naturalist course, students must:

- Be certified to at least the NASE Worldwide Open Water Diver level or equivalent
- Be at least 12 years old by the start of the course

13.11.04.00 Student/Instructor Ratios and Supervision

Please refer to Specialty Course Guidelines general required ratios and supervision.

13.11.05.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses. Instructors need to have students familiarize themselves with the following topics prior to completion of open water training dives:

- Marine biology overview
  - ☐ Physical-chemical characteristics of the sea
  - ☐ Physical factors that have a definite influence on sea life
  - ☐ The marine environment plants and animals
  - ☐ Subdivision of the marine environment
  - ☐ Classification of the five kingdoms
- Classification of living organisms (Invertebrates and Vertebrates)
- Identification of local and tropical species
- Practice recognizing species using various illustrative materials including posters, photographs, videos, etc. This may include:

- ☐ Identification of flora present
- ☐ Identification of fauna present
- ☐ Survey of the bottom morphology
- ☐ Survey of the current conditions

13.11.06.00 Open Water Training

13.11.06.01 Bottom Time and Number of Entries/Exits

- Students must accrue at least 40 minutes of Actual Bottom Time (ABT) and make a minimum of two distinct entries and exits.
- No more than three training dives may be conducted per day of diving.
- If students have completed an Underwater Naturalist dive as part of the NASE Advanced Open Water Course within the last twelve months, 25 minutes of Actual Bottom Time (ABT) from that course may apply toward this one. These students also receive credit for one separate entry and exit.

13.11.06.02 Minimum and Maximum Depths

- Minimum depth for skill assessments during open water training dives is 5 m/15 ft.
- Maximum depth for skill assessment is 20 m/65 ft.

13.11.06.03 Skill Performance Objectives

To be certified as an Underwater Naturalist, students must be able to do the following:

- Define and use the most common methods for recognizing underwater flora and fauna
- Identify flora and fauna that are prevalent in the training location
- Define and explain some procedures and tools necessary for underwater research
- Prepare a detailed dive plan that outlines the techniques for surveying the dive site
- After the dive, use the most common methods and techniques to record findings

13.12.00.00 Navigation

This course may be taught as a standalone program to students who possess a minimum of NASE Open Water Diver certification (or equivalent), or as a follow-on to the NASE Advanced Open Water Diver course. Students who have completed the NASE Advanced course under current standards need only do those skills which were not covered during Advanced training.

What makes the Navigation course different from the navigation skills covered during Advanced Diver training? The Navigation specialty adds the additional requirement that students conduct a small-area survey, gathering information on depth, distance, direction and distinguishing landmarks on an area roughly equivalent in size to a small- to medium-size wreck. Among other things, the small-area survey will help prepare students who wish to progress to the Underwater Map Making specialty course.

13.12.01.00 Who May Teach

Any Teaching status NASE Worldwide Instructor may teach this core specialty.

13.12.02.00 Required Materials and Equipment

See corresponding sections under General Training Standards.

13.12.03.00 Course Prerequisites

- Minimum certification required for this course is the NASE Worldwide Open Water Diver or equivalent
- Be at least 12 years old by the start of the course

13.12.04.00 Student/Instructor Ratios and Supervision

Please refer to the Specialty Course Guidelines for general required ratios and supervision.

> Students in the Underwater Navigation course must be under the direct or indirect supervision of a Teaching status NASE Worldwide Instructor at all times.

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

13.12.05.00 Open Water Training

13.12.05.01 Bottom Time and Number of Entries/Exits

- Students must accrue at least 60 minutes of Actual Bottom Time (ABT) and make a minimum of two distinct entries and exits.
- No more than three training dives may be conducted per day of diving.
- If students have completed the NASE Advanced Open Water Course within the last twelve months, 25 minutes of Actual Bottom Time (ABT) from that course may apply toward this one. These students also receive credit for one separate entry and exit.

13.12.05.02 Minimum and Maximum Depths

- Minimum depth for skill assessments during open water training dives is 5 m/15 ft.
- Maximum depth for skill assessment is 20 m/65 ft.

13.12.06.00 Definition of a Navigation Dive

To meet the requirements of a Navigation Dive for this course, navigation training must be the only purpose of the dive. All navigation training dives must be conducted at depths of no more than 20 m/65 ft. Navigation training dives should be conducted during daylight hours, with the exception that the final navigation may be conducted at night (provided that the student has received a previous certification as a night diver).

13.12.07.00 Skill Performance Objectives:

What students need to be able to do

To be certified as NASE Underwater Navigator, your students must be able to the following. Some of these objectives may have met if students took the NASE Advanced Open Water Diver course under current standards.

- Swim a distance of at least 30 m/100 ft and measure the number of kick cycles it takes to cover that distance.
- Without using a compass, swim under water to a point at least 100m/330 ft from the starting point, and then return to

the starting point under water using only natural navigation for reference.

- Follow a compass heading under water to a point at least 30 m/100 feet distant and return along a reciprocal course, passing within at least 15 degrees of the starting point.
- Using an underwater compass, navigate a square of at least 10 m/35 ft on each side, passing within no more than 5 m/15 ft of the starting point.
- As an alternative, students may simulate navigating at least 10 m/35 ft around an underwater obstruction by making a series of 90-degree turns, as described in the Advanced course student materials.
- Conduct an underwater survey of an area measuring at least 15 m/50 ft long by 5 m/15 ft wide, noting any significant landmarks and obtaining at least two distinct measurements of distance and direction.
- Using the data collected, create a rough map of the surveyed area.

13.12.07.01 Teaching the Navigation Course

Refer to the NASE Advanced Open Water Diver course standards for recommendations on teaching the natural and compass navigation skills that are common to both courses.

Small Area Survey: This is best conducted as one or more dives, separate from and following those used to teach natural and compass navigation. Survey tools and procedures are covered during the NASE Navigation eLearning course — although it may be wise to conduct a brief review of the key points during your pre-dive briefing. During that briefing, be sure to discuss:

- Survey Area: Make sure students clearly understand what it is they are to survey and how to find this area. When available, wrecks or similar man-made artifacts make ideal survey sites, as there is less likely to be confusion as to what the survey area is.
- Distance Measurements: As this is a small-area survey, tools such as fiberglass tape measures or knotted guideline reels will provide greater accuracy than kick cycles. The use of a tape measure or reel also makes it easier to obtain accurate direction measurements (i.e.,

compass bearings). Absent these tools, have students use arm spans.

- Measuring Direction: If available, demonstrate how to use a compass in conjunction with a tape measure or guideline reel. If these are not available, demonstrate how to obtain compass bearings between objects that lie within sight of one another.
- Depth Measurement: Remind students of the importance of obtaining accurate depth measurements at both ends of all survey segments, as well as for any additional landmarks or artifacts that are part of the survey.
- Collecting Survey Data: Show students how to record all collected survey data on slates or wet notes.

If you are working with more than a single buddy team, have students divide the survey into separate tasks, one task per buddy team.

Map Making Workshop: Following the dive(s), have students turn in their survey data, then conduct a workshop showing

how to turn this data into a simple underwater map, using the techniques outlined in the eLearning course.

> Bear in mind you are only surveying a limited area; there is no need to map the entire bottom. Despite this, make allowances to conduct additional survey dives, if needed, to collect missing information, or to increase the accuracy of the information already collected.

If your students show additional interest in underwater cartography, encourage them to enroll in the Underwater Map Making course.

13.13.00.00 Night Diver

This course trains divers to plan and conduct recreational, open water dives during nighttime and/or in low visibility conditions.

13.13.01.00 Who May Teach

Any Teaching status NASE Worldwide Instructor may teach this course

13.13.02.00 Required Materials and Equipment

See corresponding sections under General Training Standards.

13.13.03.00 Course Prerequisites

- Minimum certification required for this course is NASE Worldwide Open Water Diver or equivalent
- Be at least 12 years old by the start of the course

13.13.04.00 Student/Instructor Ratios and Supervision

Please refer to the Specialty Course Guidelines for general required ratios and supervision. Additionally, students are

to be under the direct supervision of a Teaching status NASE Instructor or certified assistant at all times.

13.13.05.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses.

13.13.06.00 Open Water Training

13.13.06.01 Bottom Time and Number of Entries/Exits

- Students must accrue at least 50 minutes of Actual Bottom Time (ABT) and make a minimum of two distinct entries and exits.
- No more than three training dives may be conducted per day of diving.
- If students have completed a night dive as part of the NASE Advanced Open Water Course within the last twelve months, 25 minutes of Actual Bottom Time (ABT) from that course may apply toward this one. These students also receive credit for one separate entry and exit.

13.13.06.02 Minimum and Maximum Depths

- Minimum depth for skill assessments during open water training dives is 5 m/15 ft.
- Maximum depth for skill assessments is 20 m/65 ft.

13.13.06.03 Definition of a Night Dive

For training purposes, a night dive is a dive conducted during the hours between sunset and sunrise. NASE Worldwide recommends that the night dive site be a site that the students are familiar with during daytime diving. This can be easily accomplished if one or more of the navigation dives are conducted prior to the first night dive. If this recommendation is not practical, the first dive must be started during twilight to familiarize the students with the bottom contour; then it may continue into darkness.

13.13.06.04 Dive requirements:

- All descents and ascents must be conducted with a visual reference, i.e., bottom contour when diving from the shore, an ascent/descent line attached to a float at the surface, or the anchor line or mooring buoy line when diving from a boat.

- Buoyancy Control: A review of each student's buoyancy control proficiency will be conducted under the direct supervision of the course instructor prior to that student's participation in a night dive.
- Use of Dive Lights: Proper use of and maintenance and care for the dive light(s) will be discussed and demonstrated to the student(s) by the course instructor and/or assistant instructor.
- Underwater Communication and Procedures: The course instructor and/or assistant instructor will demonstrate and assure student understanding of underwater hand and light signals in standard use during night time underwater operations.
- Navigation: Under direct supervision, the course instructor and/or assistant instructor will review and assure that each student has proficiency with basic course and reciprocal course compass navigation prior to that student's first night dive.

13.13.07.00 Skill Performance Objectives

To be certified as NASE Worldwide Night Divers, students must be able to:

- Prepare a detailed dive plan for a night dive with respect to the specific techniques and procedures for the location where the dive is being conducted and execute the dive according to the plan (e.g. considerations for entries, exits and communication with buddy/team and boat or shore support).
- Identify night diving hazards for the location and explain how to prevent and/or deal with them in the safest way.
- Explain and demonstrate the following problem solving skills in open water: loss of primary light and switch to back-up lights and loss of buddy/team member.
- Using a compass, navigate a course out and back for a total of at least 45 m/150 ft.

13.13.07.01 Underwater Problems/Hazards While Nightdiving

- The course instructor must assure that the night training dive site does not present an unreasonable hazard to the students.
- The instructor and/or certified assistant will familiarize the students with underwater terrain and topography by conducting a dive during daylight before the night dive.

13.14.00.00 Nitrox Diver and Advanced Nitrox Diver

The NASE Nitrox Diver and Advanced Nitrox Diver courses are designed to help students safely use Enriched Air Nitrox (EANx) mixtures with oxygen concentrations of up to 40 percent (EAN40) within recreational diving limits. The course may be conducted in one of two ways:

- NASE Nitrox Diver covers all of the information divers need to plan and conduct Nitrox dives using a Nitrox-capable personal dive computer.
- NASE Advanced Nitrox Diver covers all of the information in the NASE Nitrox Diver course, plus additional information on Equivalent Air Depths (EADs) and "CNS Clock" values, as well as using this information in conjunction with air-based dive tables.

NASE Nitrox Diver students may upgrade to Advanced Nitrox Diver at any time by completing the additional requirements for that certification.

13.14.01.00 Who May Teach

Only those instructors who have qualified and been approved as NASE Nitrox Instructors may teach these courses. To apply for Nitrox Diver Instructor certification, a NASE Instructor must be able to document:

- Having successfully completed either a recreational Nitrox Diver course or a NASE Nitrox Diver Specialty Instructor Training Course
- Having made at least ten separate dives using gas mixtures with and FO_2 of 23 percent or more

13.14.02.00 Required Materials and Equipment

See corresponding sections under General Training Standards. Additionally:

- Each student taking part in the NASE Advanced Nitrox Diver course must have the NASE Equivalent Air Depth and oxygen-exposure tables.
- During the practical application segment of this course, students are to have access to oxygen analyzers and fill-station logs.

13.14.03.00 Course Prerequisites

To take part in the Nitrox Diver courses, students must:

- Be at least 15 years old by the start of the course.

Additionally, students must either:

- Be certified to at least the NASE Worldwide Open Water Diver level or equivalent, or…
- Take this course concurrently with the NASE Worldwide Open Water Diver course.

If taken in conjunction with the Open Water Diver course, the applicable Nitrox Diver certification is not to be issued until students have met all requirements for Open Water Diver certification.

Students who are taking the Advanced Nitrox Diver course must further be proficient in the use of the NASE Recreational Dive Table or any other popular air-based dive table in whose use they have been trained. If students lack formal training in dive table use, the instructor is to include use of the NASE Recreational Dive Table as part of the course.

13.14.04.00 Student Pre-Assessment

Please refer to the Specialty Course Guidelines in the NASE Worldwide Standards and Procedures manual.

13.14.05.00 Student/Instructor Ratios and Supervision

Please refer to Specialty Course Guidelines for required ratios and supervision. Additionally, the NASE Nitrox Diver courses requires the following modification:

- Students are to be under the direct supervision of a Teaching status NASE Worldwide Instructor during all dive activities taking place below 20 m/65 ft; otherwise, indirect supervision is permitted.

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

13.14.06.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses.

13.14.06.01 Practical Application Objectives

To be certified as NASE Nitrox I or II Divers, students must demonstrate the ability to:

- Correctly use an oxygen analyzer
- Accurately determine the oxygen concentration in a scuba tank to within ±1 percent
- Mark cylinder contents with an appropriate label denoting Fraction of Oxygen (FO2), Maximum Operating Depth (MOD), date of analysis, and their initials
- Record Fraction of Oxygen (FO_2) and Maximum Operating Depth (MOD) data in a fill-station log (may be simulated on blank log sheets)
- Program a Nitrox-capable dive computer with the applicable FO_2 value
- After programming a Nitrox-capable dive computer with the applicable FO_2 value, put the computer into Plan mode and determine the No-Decompression Limit (NDL) for a dive within recreational depth limits

Additionally, students taking part in the Advanced Nitrox Diver course must also:

- Review use of the Equivalent Air Depth and "CNS Clock" tables with their instructor
- Use these materials to plan and make at least two theoretical or actual repetitive dives within safe no-decompression and oxygen-exposure limits

13.14.07.00 Open Water Training

13.14.07.01 Bottom Time and Number of Entries/Exits

Open water training dives are not required for certification as a NASE Nitrox Diver. Nevertheless, if the opportunity presents itself, NASE encourages instructors to provide students with the opportunity to make one or more Nitrox dives in conjunction with the course. These may take place concurrently with dives for other levels of training.

> If a dive is included as part of the program, the instructor must ensure that only three training dives are conducted per day of diving.

13.14.07.02 Minimum and Maximum Depths

- Minimum depth for skill assessments during open water training dives is 5 m/15 ft.

- Maximum depth for this course is 20 m/65 ft; if students have NASE Advanced Open Water or equivalent, the maximum depth is 30 m/100 ft. Divers under the age of 15 are limited to a maximum depth of 20 m/65 ft regardless of prior training.
- Under no circumstances are students to plan dives that would cause them to exceed a limiting PO_2 of 1.4 ATA, nor any no-decompression limits or oxygen-exposure limits.

13.14.07.03 Skill Performance Objective for Nitrox Diver

Students must be able to:

- Personally analyze and correctly label the tanks they will be using
- Complete a fill-station log, if required

13.14.08.00 Skill Objectives for Advanced Nitrox Diver

To be certified at the NASE Advanced Nitrox Diver level, students must meet all skill performance objectives for Nitrox Diver and demonstrate the ability to:

- Calculate depth in atmospheres using a formula

- Calculate the following using the formulas in the Appendix of the student manual for a planned dive: MOD, PO_2 and EAD
- Demonstrate how to use the NASE Equivalent Air Depth (EAD) table with air-based dive tables
- Track exposure to oxygen by using the NASE Oxygen Exposure Time Limits table for repetitive non-decompression dives

13.14.08.01 Practical Application

In lieu of in-water training, instructor contact during NASE Nitrox Diver courses is generally limited to an informal practical-application session where students learn to analyze tanks, complete a fill-station log, and program a Nitrox dive computer. You don't need a formal classroom setting or even a specific time to do this. Many such sessions typically take place with one or two students at a time, right at the dive store or resort fill station. The small, informal nature of these sessions makes it possible to offer Nitrox Diver training on an "on demand" basis.

The topics you will cover during the practical application session include:

- Showing where Nitrox comes from
- Analyzer demonstration and practice
- Completing the fill station log
- Programming and using a Nitrox dive computer

13.14.08.02 Equipment You Will Need

At a minimum, you are going to want to have the following items on hand:

- Two tanks of Nitrox, each with a different FO_2
- One tank of what you know, unequivocally, to be air for use as a calibration source
- An oxygen analyzer
- Sample fill station log sheets (see student manual Appendix)
- At least one Nitrox programmable dive computer. If possible, you should have two very different oxygen analyzers for students to use:
  - One should be the type you simply hold up against the tank valve orifice, while attempting to control flow rate with the tank valve itself.
  - The other analyzer should be the kind you plug into a BC low-pressure inflator hose, which helps ensure a

more consistent flow rate and that the analysis is not affected by outside factors such as humidity.

- ☐ At least one analyzer should have an actual calibration dial, which allows students to control the calibration setting precisely, as opposed to a calibration button that simply locks the analyzer into a setting of 20.9 percent.

Having multiple different types of analyzers helps students understand the possible trade-offs between compact size and convenience and better overall accuracy.

13.14.08.03 Where Does Nitrox Come From?

A good way to start off your practical application session is by showing students exactly where their Nitrox comes from.

- If you use a pre-mix system, show the students its components and provide a basic explanation of how they work.
- If you partial-pressure blend your Nitrox, consider blending the gas students will be analyzing while they watch, if time allows.

13.14.08.04 Analyzer Demonstration and Practice

Once you have your Nitrox ready to analyze, the next step is to demonstrate the proper use of your oxygen analyzers and have students practice doing so themselves.

- Follow the steps listed in Section 1.4 of the Nitrox Diver manual as closely as you can.
- Stress the importance of calibration, using a tank of what you know unequivocally to be air, whenever possible.
- If you have two different analyzers, demonstrate and have students practice with both. If students will have the opportunity to make actual Nitrox dives in conjunction with the course, it will be even more meaningful if you give them the opportunity to analyze the same tanks they will be using on those dives. Bear in mind, though, that if they don't do so now, they will have to do so later.

13.15.00.00 Search and Recovery Diver

This course leads to certification in search and recovery diving and provides the necessary skills and knowledge for doing so. The planning, organization, procedures, techniques, problems and hazards of search and recovery diving are covered. This includes, but is not limited to navigation and proper search techniques, use special equipment, rigging and recovery, and emergency procedures.

The emergency procedures will include all necessary surface and submerged life saving skills and equipment, underwater navigation using natural and compass techniques; the problems, methods, equipment, hazards, and safety procedures regarding limited visibility diving; proper search methods and techniques and how to handle light salvage or recovery, including rigging and knot tying.

13.15.01.00 Who May Teach

Only those instructors who have qualified and been approved as NASE Search and Recovery Diver Instructors may teach these courses. To apply for Search and Recovery Diver Instructor certification, a NASE Instructor must be able to document:

- Having successfully completed either a recreational Search and Recovery Diver course or a NASE Search and Recovery Diver Specialty Instructor Training Course and have logged at least ten separate dives in which search and recovery was primary dive objective.

13.15.02.00 Required Materials and Equipment

See corresponding sections under General Training Standards.

13.15.03.00 Course Prerequisites

- Minimum certification required for this course is the NASE Worldwide Advanced Open Water Diver or equivalent
- Must be at least 18 years old

13.15.04.00 Student/Instructor Ratios and Supervision

Please refer to Specialty Course Guidelines for general required ratios and supervision.

- Students in the Search and Recovery Diver course are to be under the direct supervision of a Teaching status NASE Worldwide Instructor during all dive activities taking place below 20 m/65 ft.

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

13.15.05.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses.

13.15.06.00 Open Water Training

13.15.06.01 Bottom Time and Number of Entries/Exits

- The Search and Recovery Diver course may consist of as many dives as needed to help ensure student competence and safety.
- Students must accrue at least 80 minutes of Actual Bottom Time (ABT) and make a minimum of three distinct entries and exits.
- No more than three training dives may be conducted per day of diving.

- If students have completed the NASE Advanced Open Water Course within the last twelve months, 20 minutes of Actual Bottom Time (ABT) from that course may apply toward this one. These students also receive credit for one separate entry and exit.

13.15.06.02 Minimum and Maximum Depths

- Minimum depth for skill assessments during open water training dives is 5 m/15 ft.
- Repetitive dives are to be conducted to either the same or a shallower depth as the preceding dive(s).

Search and Recovery Diver training dives must be conducted during daylight hours.

13.15.06.03 Definition of a Search and Recovery Dive

To meet the requirements of a Search and Recovery dive for this course, training must be the primary purpose of the dive.

13.15.07.00 Skill Performance Objectives

To be certified as a NASE Worldwide Search and Recovery0 Diver, students must be able to:

- Demonstrate pre-dive planning by determining dive time limits based on personal gas consumption based on the NASE Minimum Gas Reserve (MGR)
- Demonstrate the proper use and rigging of primary equipment that ensures the following: Streamlined, easily accessible (Environmental conditions such as cold temperature require extra attention)
- Navigate using natural navigation skills (refer to NASE Advanced Open Water) for searching area and locating object
- Deploy SMB (from surface) based on “last known location” to determine search area
- Navigate using compass as primary navigation tool to search area and locating object with the following two patterns: spiral box search and compass grid search
- Demonstrate a Circular Search Pattern from SMB and locate object
- Retrieve object weighing less than 7 kg/15 lbs without lift bag and be able to do bring to surface under control and safe rate of ascent. Student must also be able to ditch object (simulated emergency) and maintain buoyancy

control. Maximum weight a diver can lift without aid of lift bag is 17 kg/15 lbs (estimated).

- While under water, rig object for safe retrieval using one of the following knots: bowline, sheet bend or two half hitches
- Retrieve object weighing more than 7 kg/15 lbs pounds using lift bag, and be able to do bring to surface under control and safe rate of ascent

13.16.00.00 Self-Sufficient Diver

This course leads to certification in self-sufficient diving and teaches the techniques, hazards and proper procedures for doing so. Upon successful completion of this course, graduates may engage in self-sufficient diving activities in conditions similar to those in which they were trained.

13.16.01.00 Who May Teach

Only those instructors who have qualified and been approved as NASE Self-Sufficient Diver Instructors may teach these courses. To apply for Self-Sufficient Diver Instructor certification, a NASE Instructor must be able to document either:

- Having successfully completed either a recreational Self-Sufficient Diver course or a NASE Self-Sufficient Diver Specialty Instructor Training Course and have logged at least ten separate self-sufficient dives.

13.16.02.00 Required Materials and Equipment

See corresponding sections under General Training Standards.

13.16.03.00 Course Prerequisites

- Minimum certification required for this course is the NASE Worldwide Advanced Open Water Diver or equivalent and 2,000 minutes ABT or 100 logged dives
- Must be at least 18 years old

13.16.04.00 Student/Instructor Ratios and Supervision

Please refer to Specialty Course Guidelines for general required ratios and supervision.

- Students in the Self-Sufficient Diver course are to be under the direct supervision of a Teaching status NASE Worldwide Instructor during all dive activities taking place below 20 m/65 ft.

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

13.16.05.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses.

- Pros and cons of buddy diving
- Pros and cons of diving without a buddy
- Self-reliance
- Self-rescue
- When not to dive
- Equipment and Configuration for Self-Sufficient diving
- Planning and dive considerations for the Self-Sufficient Diver
- Contingency planning
- Gas management
- Management of diving emergencies
- Panic and stress management techniques
- Use of surface marker buoys and location devices

13.16.06.00 Open Water Training

13.16.06.01 Bottom Time and Number of Entries/Exits

- The Self-Sufficient Diver course may consist of as many dives as needed to help ensure student competence and safety.

- Students must accrue at least 60 minutes of Actual Bottom Time (ABT) and make a minimum of two distinct entries and exits.

13.16.06.02 Minimum and Maximum Depths

- Minimum depth for skill assessments during open water training dives is 5 m/15 ft.
- Maximum depth for skill assessments during open water training dives is 20 m/65 ft.
- Repetitive dives are to be conducted to either the same or a shallower depth as the preceding dive(s).

Self-Sufficient Diver training dives must be conducted during daylight hours.

13.16.06.03 Definition of a Self-Sufficient Dive

To meet the requirements of a Self-Sufficient dive for this course, training must be the primary purpose of the dive.

13.16.07.00 Skill Performance Objectives

To be certified as a NASE Worldwide Self-Sufficient Diver, students must be able to:

- Demonstrate pre-dive planning by determining dive time limits based on personal gas consumption based on the NASE Minimum Gas Reserve (MGR)
- Demonstrate the proper use and rigging of redundant air supply that helps ensures it is streamlined and easily accessible. Environmental conditions such as cold temperature may require extra attention.

Demonstrate competency (as defined in the NASE Standards and Procedures manual) of the following skills:

- Mask removal and replacement
- Regulator removal and replacement
- Simulate power inflator failure by orally inflating BC to maintain neutral buoyancy underwater and again to establish positive buoyancy on surface
- Properly execute the planned dive within all ore-determined limits making a Proper Descent
- Ascent, and appropriate stops resulting in the diver surfacing within two minutes of the dive plan

- Complete a Surface swim of 200 m/600 ft in full scuba gear appropriate for local conditions. Must be Non-stop and performed in an open water environment.
- Swim a distance of at least 30 m/100 ft and measure the number of kick cycles it takes to cover that distance
- Without using a compass, swim under water to a point at least 100 m/330 ft from the starting point, and then return to the starting point under water using only natural navigation for reference
- Follow a compass heading under water to a point at least 30 m/100 ft distant and return along a reciprocal course, passing within at least 15 degrees of the starting point
- Demonstrate emergency bailout to redundant scuba system within 30 seconds while swimming
- Perform ascent and a minimum of five-minute safety stop Diver must breath a minimum of 25% of bailout gas supply
- Deploy surface marker buoy from depth no deeper than 10 m/33 feet and preform safety stop for no less than two minutes while maintaining proper buoyancy control
- Demonstrate self-rescue for Leg Cramp, Short of breath, vertigo and weight system remove and replace

13.17.00.00 Sidemount Diver

This course trains divers to plan and conduct dives using sidemount harnesses and cylinders. It may be conducted as a standalone recreational specialty, or as an add-on or prerequisite for cave or technical diver training programs.

13.17.01.00 Who May Teach

Only those instructors who have qualified and been approved as NASE Sidemount Diver Instructors may teach these courses. To apply for Sidemount Diver Instructor certification, a NASE Instructor must be able to document:

- Having successfully completed either a recreational Sidemount Diver course or a NASE Sidemount Diver Specialty Instructor Training Course and have logged at least ten separate dives in which sidemount equipment was used.

13.17.02.00 Required Materials and Equipment

See corresponding sections under General Training Standards. In addition to all equipment required by general standards, each student in the Sidemount Diver course is to be equipped with:

- A sidemount harness and air cell that meets prevailing standards of practice
- Two separate cylinders, each with its own regulator first and second stage, and its own submersible pressure gauge
- Overall equipment configuration, hose routing and accessory attachment should reflect common standards of practice for the area in which the course is being conducted and the type of diving activity for which students are preparing

13.17.03.00 Course Prerequisites

- Minimum certification required for this course is the NASE Worldwide Open Water Diver or equivalent
- Must be at least 18 years old

13.17.04.00 Student/Instructor Ratios and Supervision

Please refer to Specialty Course Guidelines for general required ratios and supervision.

Students in the Sidemount Diver course are to be under the direct supervision of a Teaching status NASE Worldwide Sidemount Diver Instructor during the first 30 minutes of open water training and during all dive activities taking place below 20 m/65 ft.

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

13.17.05.00 Knowledge Development

Prior to taking part in any in-water training activities, students are to read the NASE Sidemount Diver manual and successfully complete the NASE Sidemount Diver written exam. Refer to the section on Knowledge Development for All NASE Courses for additional information.

13.17.06.00 Confined Water Training

Skill development in confined water is optional but recommended. Students at this level can benefit greatly from having the opportunity to develop skills in confined water before applying them in open water. In confined water training is not an option, initial open water training should take place in water that as much like confined water as possible.

13.17.07.00 Open Water Training

13.17.07.01 Bottom Time and Number of Entries/Exits

- The Sidemount Diver course may consist of as many dives as needed to help ensure student competence and safety.
- Students must accrue at least 50 minutes of Actual Bottom Time (ABT) and make a minimum of two distinct entries and exits.
- No more than three training dives may be conducted per day of diving.

13.17.07.02 Minimum and Maximum Depths

- Minimum depth for skill assessments during open water training dives is 5 m/15 ft.
- Sidemount Diver training dives must be conducted during daylight hours.
- Maximum depth for skill assessments during open water training dives is 20 m/65 ft.

13.17.07.03 Definition of a Sidemount Dive

Throughout this course, students must use equipment that meets prevailing standards of practice and utilizes two separate tanks.

13.17.08.00 Skill Performance Objectives

To be certified as a NASE Worldwide Sidemount Diver, students must be able to:

- Correctly configure, assemble and don a sidemount harness and cylinders
- Swim in sidemount equipment while maintaining control over depth and direction, and maintain neutral buoyancy and horizontal trim while both swimming and resting
- Perform a variety of common underwater tasks while using sidemount equipment
- Remove and replace both sidemount cylinders (one at a time) in water too deep to stand
- Remove and replace both sidemount cylinders (one at a time) while maintaining neutral buoyancy under water
- Share breathing gas with another diver, as both donor and receiver, while stationary and ascending

13.18.00.00 Wreck Diver

This course leads to certification as a NASE Wreck Diver and provides the necessary skills and knowledge for safe wreck exploration. The planning, organization, procedures, techniques, limits, problems and hazards of wreck diving are covered. This includes, but is not limited to navigating wrecks, risks associated with wreck diving, limits of penetration (light zone/distance) and emergency procedures.

Internal exploration is limited to a swim through in which divers can clearly identify exit point no more than 8 m/25 ft from entry point, divers can swim side by side, no entanglement/entrapment hazards are visible and only if the begin exiting with two-thirds of their starting gas supply remaining. Depth plus linear penetration cannot exceed 30 m/99 ft.

13.18.01.00 Who May Teach

Only those instructors who have qualified and been approved as NASE Wreck Diver Instructors may teach these courses. To apply for Wreck Diver Instructor certification, a NASE Instructor must be able to document:

- Having successfully completed either a recreational Wreck Diver course or a NASE Wreck Diver Specialty Instructor Training Course and have logged at least ten separate dives.

13.18.02.00 Required Materials and Equipment

See corresponding sections under General Training Standards.

13.18.03.00 Course Prerequisites

- Minimum certification required for this course is the NASE Worldwide Advanced Open Water Diver or equivalent
- Must be at least 18 years old

13.18.04.00 Student/Instructor Ratios and Supervision

Please refer to Specialty Course Guidelines for general required ratios and supervision.

- Students in the Wreck Diver course are to be under the direct supervision of a Teaching status NASE Worldwide Instructor during all dive activities taking place below 20 m/65 ft or any time students are preforming a swim through.

Note: These are the maximum allowable ratios under ideal conditions. Real-world conditions, however, generally dictate the use of more conservative ratios to ensure maximum student safety and enjoyment.

13.18.05.00 Knowledge Development

Refer to the section on Knowledge Development for All NASE Courses.

13.18.06.00 Practical Application Objectives

To be certified as a NASE Wreck Diver, students must demonstrate the ability to:

- Define the differences between wrecks and artificial reefs
- Plan gas requirements and bottom time
- Navigate wrecks using correct techniques with respect to visibility and depth
- Explain emergency planning for exceeding depth, loss of gas and lost diver
- Define the correct procedure for the following hazards of wreck diving, including:
  - ☐ Current

- ☐ Decay
- ☐ Entanglement
- ☐ Entrapment
- ☐ Disorientation
- ☐ Becoming lost inside wreck

13.18.07.00 Open Water Training

13.18.07.01 Bottom Time and Number of Entries/Exits

- The Wreck Diver course may consist of as many dives as needed to help ensure student competence and safety.
- Students must accrue at least 80 minutes of Actual Bottom Time (ABT) and make a minimum of three distinct entries and exits.
- No more than three training dives may be conducted per day of diving.
- If students have completed the NASE Advanced Open Water Course within the last twelve months, twenty minutes of Actual Bottom Time (ABT) from that course may apply toward this one. These students also receive credit for one separate entry and exit.

13.18.07.02 Minimum and Maximum Depths

- Minimum depth for skill assessments during open water training dives is 5 m/15 ft.
- Maximum depth for skill assessments is 20 m/65 ft.
- Repetitive dives are to be conducted to either the same or a shallower depth as the preceding dive(s).

Wreck Diver training dives must be conducted during daylight hours.

13.18.07.03 Definition of a Wreck Dive

To meet the requirements of a wreck dive for this course, training must be the primary purpose of the dive.

13.18.07.04 Skill Performance Objectives

To be certified as a NASE Worldwide Wreck Diver, students must be able to:

- Demonstrate pre-dive planning by determining dive time limits based on personal gas consumption based on the NASE Minimum Gas Reserve (MGR).

- Demonstrate the proper use and rigging of primary equipment that ensures the following characteristics:
  - ☐ Streamlined
  - ☐ Easily accessible
  - ☐ Environmental conditions such as cold temperature require extra attention
- Navigate wreck using natural navigation skills for minimum distance of 25 m/75 ft from mooring point and back
- Identity a minimum of two distinct hazards and execute proper technique to avoid
- Locate safe area in which a limited “swim though” can be preformed not exceeding a distance of 8 m/25 ft and with clear exit in sight at all times
- Identity a minimum of two distinct hazards and execute proper technique to avoid
- Maintain buddy team throughout entire dive