



Underwater Navigation

Course Instructor: Al Schumer, Northwest Diving Institute (www.nwscuba.org)

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Course Type: Underwater Navigation

Course Tuition: \$125.00 **Required Text:** UW Navigation Specialty Manual

Session One

Session Type: Orientation **Session Location:** Alki Beach

Session Date: Saturday, November 13, 2010 **Session Time:** 8:00 AM

Specifics: We'll meet at the Alki Crab & Fish Company to complete the necessary paperwork and go over the knowledge reviews, benefits of mastering underwater navigation, techniques for estimating distance underwater, and the use of natural navigation references and techniques; common patterns for underwater navigation, compass use, techniques to avoiding errors when using a compass, the use of permanent shore landmarks to relocate underwater sites, and the use of compass bearings to fix and locate underwater sites; and, additional navigational tools and instruments and techniques to use them effectively while navigating multi-heading courses underwater.

We'll then head to the beach and gear up for our dives of the day.

Session Two

Session Type: Open Water Dive **Session Location:** Cove 3, Alki Beach

Session Date: Saturday, November 13, 2010 **Session Time:** After Interval

Specifics: We'll brief, conduct and debrief our first dive of the day emphasizing the following topics: maintain neutral buoyancy during the dive; determine the average number of kick cycles AND average amount of time required to cover a distance of approximately 100 feet while swimming underwater at a normal, relaxed pace; navigate (surfacing only if necessary to verify direction or location) to a predetermined location and return to within 50 feet of the starting point using natural references and estimated distance measurement (kick cycles or time); demonstrate the correct positioning and handling of a compass needed to maintain an accurate heading while swimming underwater; navigate (without surfacing) to a predetermined location and return to within 20 feet of the starting point using a compass and estimated distance measurement (kick cycles or time); and, swim a square pattern underwater returning to within 25 feet of the starting point using a compass and beginning from a fixed location.

Session Three

Session Type: Open Water Dive **Session Location:** Cove 3, Alki Beach

Session Date: Saturday, November 13, 2010 **Session Time:** After Interval

Specifics: We'll take a minimum surface interval during which we'll swap out tanks and enjoy a warm snack.

We'll then brief, conduct and debrief our second dive of the day emphasizing the following topics: demonstrate the correct compass positioning and handling needed to maintain an accurate heading while swimming underwater; navigate a predetermined course (provided by the instructor prior to the dive) with more than five compass turns, returning to the starting point within 50 feet of the exit, without surfacing; and, fix a specific underwater location to be relocated on a future dive, using two permanent sets of landmarks with an angle of at least 60° between them, or using a compass bearing.

Session Four

Session Type: Open Water Dive **Session Location:** Cove 3, Alki Beach

Session Date: Saturday, November 13, 2010 **Session Time:** After Interval

Specifics: We'll take a minimum surface interval during which we'll swap out tanks and enjoy a warm snack.

We'll then brief, conduct and debrief our third and last dive of the day emphasizing the following topics: demonstrate the correct compass positioning and handling needed to maintain an accurate heading while swimming under water; navigate a compass course under water when new course headings (five or more) are provided on underwater markers; and, draw a map of the underwater area covered by the course conducted during the dive.

Final Session

Session Type: Certification **Session Location:** Alki Beach

Session Date: Saturday, November 13, 2010 **Session Time:** After Interval

Specifics: After everyone is packed up, we'll meet back at the Alki Fish & Crab Company for some food (optional) and to complete your certification paperwork.

Congratulations, you are now a certified Underwater Navigator!

Equipment Required for this Course

Item 1: Exposure Suit **Item 2:** Snorkeling gear **Item 3:** 3 Tanks

Item 4: Regulator **Item 5:** BCD **Item 6:** Weights

Item 7: Dive Light **Item 8:** Compass

Equipment Recommended for this Course

Item 1: Dan Insurance **Item 2:** U/W Slate

NOTES:



This course is a good next step after Advanced Open Water and will improve your compass skills and, therefore, the accuracy of your dive, especially in poor visibility. This class will make you a safer and more confident diver and speed you along your way toward becoming a Master Scuba Diver and beyond.

A natural follow-on to this class is my Search and Recovery class, which certifies you recover moderate-weight objects at recreational depths and relies on your compass skills to swim accurate search patterns.