



Science of Diving

Think about this - every time we go diving we use skills, knowledge and equipment to do something we were not designed to do - be underwater and breathing. Sometimes we forget just how amazing that is.

Well, if you want to know about the science that goes into us being able to be underwater and breathing - then this is the course for you. The Science of Diving touches on every aspect of diving. The areas covered will include: Diving Physics, Diving Physiology, Decompression Theory, Dive Equipment, Aquatic Environment and Technical Diving. Knowledge that you will find useful in all your diving activities.

Diving Physics covers the principles underlying all physical interactions experienced by a diver. This will teach you why air spaces behave as they do, and the steps you can take to control them under pressure. Gasses are discussed in detail, including situations where it is best to use each in diving. Energy transfer, buoyancy, and gas consumption are also discussed and applied to real-life scenarios to increase a diver's understanding of the underwater environment.

Diving Physiology outlines the respiratory and circulatory systems as well as thermal properties of the body. With an understanding of these systems, a diver can explain how they are affected underwater and how to recognize and prevent injury from excessive stress.

Decompression Theory discusses inert gas absorption and elimination. It lays a foundation for all decompression diving - a major part of most technical dives - and explains why divers must carefully monitor their time at depth, rate of ascent, and dive profile. Real life scenarios are applied to this information so divers can make informed decompression decisions. The ultimate goal, of course, is to minimize the risk of decompression injury.

The Dive Equipment section expands on basic equipment and introduces components of technical gear. A diver will learn about the available options, including advantages and disadvantages, of each part of a diver's equipment. Advanced topics include types of first stage regulators, gauges, and full face masks. You will learn how to maintain and handle your equipment for years of optimal use.

The Marine Environment section covers ocean movements and aquatic ecosystems. These ecosystems consist of fragile interconnected components and disturbing them can have lasting consequences. The steps divers can take to respect the environment are discussed as well as how to ensure personal safety among underwater hazards. This section is perfect for a diver who can handle themselves in the water and wants to know more about the surrounding environment. Dive guides will also benefit from a knowledge of how currents affect dive logistics as well as marine life.

The SSI Science of Diving Specialty is a prerequisite for the SSI Divemaster certification. With the completion of this course, the diver needs only the Dive Guide certification to become a full Divemaster.

You will finish this course with a greater understanding of diving that will provide the perfect knowledge-base for the next step in your dive instruction. Whether you are interested in technical diving, equipment servicing, marine conservation or underwater photography, you will benefit from all sections of SSI Science of Diving.

The cost of the program is \$300. This includes registration with SSI for the Science of Diving online program (\$90 value) and a certification card (\$30 value). The course consist of 5 academic review sessions (extra review sessions may be added, dependent on class interest).