Marine Biology BS - Student Learning Outcomes (SLOs)

**Core Concepts and Competencies**

**01**
Foundation Sequence

At the end of the foundation sequence (BIOL 111, BIOL 112, BIOL 211/213) students demonstrate the ability to apply knowledge of the core concepts and competencies in biology to classify, explain and interpret biological phenomena. Core concepts include the biology of the cell, biochemistry, molecular biology, genetics, developmental biology of multicellular organisms, physiology of multicellular organisms, anatomy of animals, anatomy of plants, evolution, ecology, conservation biology, population biology, and biodiversity.

**02**
Programmatic Improvement

Students who have completed the Marine Biology BS will have continued beyond the foundation sequence, completed a genetics lecture course, and additional lecture and laboratory classes within biology. Additional coursework in chemistry and mathematics will have been completed. Additional coursework in oceanography, invertebrate zoology, ecology, geology, and the biology of fishes will have been completed.

At the end of the program Marine Biology BS students demonstrate additional improvement in their ability to apply knowledge of the core concepts and competencies of biology to classify, explain and interpret biological phenomena, especially phenomena relevant to marine biology. Core concepts include the biology of the cell, biochemistry, molecular biology, genetics, developmental biology of multicellular organisms, physiology of multicellular organisms, anatomy of animals, anatomy of plants, evolution, ecology, conservation biology, population biology, and biodiversity. Core competencies include the ability to interpret experimental and observational data.

**03**
Scientific Communication Skills

At the end of the program Marine Biology BS students demonstrate the ability to communicate biological explanations and interpretations in the standard vernacular and style of the marine biological sciences.

Examples of communication methods include oral presentations, slideshow presentations, poster presentations, written lab reports, and written biological essays. These communications will discuss biological phenomena, experimental designs, and scientific theories.