

**Course Title****ERHS**

Marine Science (P)

Prerequisites: Successful completion of either General Science or Introductory Physical Science or their equivalent and successful completion of at least one semester of Biology with a grade "C" or better.

**Description of Target Group**

This course is designed for 10th, 11th, and 12th grade students who are planning to continue their education in college.

**Purpose**

To provide the students information about the physical and biological aspects of the marine environment, the interaction of these two aspects and their affect upon our everyday lives. This course is designed to better prepare college entry students for college Biology.

**Expected Student Achievement**

Upon completion of this course, students should be able to:

1. Correctly and accurately use basic scientific equipment, such as a microscope, triple beam balance, hydrometer, graduate cylinder, etc.
2. Make and interpret graphs using both regular and semilog graph paper.
3. Solve mathematical problems using simple algebraic techniques involving salinity, tides, currents, waves, unit conversions, basic navigation and time zone calculations, etc.
4. Identify living organisms to their major taxa using modern and accepted taxonomy.
5. Construct and use dichotomous keys in classifying organisms.
6. Demonstrate how marine organisms interact with each other and how they affect us economically and ecologically.
7. Identify various career opportunities in the field of oceanography.
8. Demonstrate a basic knowledge and understanding of the processes and occurrences commonly associated with the ocean, both past and present.

## **Marine Science (continued)**

### **Course Content**

The following subjects are expected to be presented to Marine Science students:  
(Note: other appropriate subjects may be added if time permits)

|                                  |                                  |
|----------------------------------|----------------------------------|
| History of Oceanography          | Classification                   |
| Ocean Basins and Plate Tectonics | Phylogenetic Study of Major Taxa |
| Seawater                         | Plankton                         |
| Atmosphere and Climate           | Nekton                           |
| Currents                         | Benthic Organisms                |
| Waves                            | Biochemical Processes            |
| Tides                            | Coastal Ocean                    |

### **Instructional Materials**

Text:            Oceanography, a view of the earth / M. Grant Gross. ---5<sup>th</sup> edition  
                    Prentice Hall, Englewood Cliffs, New Jersey 07632

### **Activities**

Lectures, class discussions, demonstrations, laboratory investigations, video presentations, individual and group oral reports and projects, field trip(s) and more.

