# West Linn–Wilsonville School District

## Science Department – Course Statement

### Course Title: Marine Biology

**Length of Course:** Semester
**Number of Credits:** 1
**Grade Level:** 10, 11, 12
**Prerequisites:** Biology or Equivalent
**CIM Work Samples Offered in Course:** Opportunities for speaking work samples

**Date of Description/Revision:** 2002

## Course Overview

This course examines the various life forms that live in the sea and their numerous adaptations for surviving in this salty environment. Students also study the wide variety of habitats and communities that make up the world's oceans. There will be a focus on Oregon's Marine Biology.

## Essential Questions

**Concepts providing focus for student learning**

- How does science ask and answer questions?
- How is structure related to function?
- How do marine organisms differ from similar organisms on land?
- What are the mechanisms of change and stability in marine systems?
- How are unity and diversity integrated in marine systems?
- In what way are marine organisms interconnected with their environment?

## Proficiency Statements

Upon completion of course, students will be able to:

- Interpret an illustrated food web and identify key species.
- Explain the various trophic levels found in marine systems.
- Describe various communities found throughout the world's oceans.
- Explain the effects of human interactions with marine species and habitats.
- Describe unique features and specialized adaptations of marine vertebrates such as mammals, birds, reptiles, and the three major groups of fish.
- Describe the diversity of marine invertebrates and the characteristic features of each of the major phyla.
- Explain the various types of planktonic life and their roles in ocean ecosystems.
- Describe the limitations of marine plants and the features they have to deal with marine life.
- Explain the key features of vent communities and the role of chemosynthetic bacteria in these communities.

- Identify common marine mammals, birds, and invertebrates of the Oregon coast.
- Discuss tools and techniques for studying marine life in their natural environment.

### General Course Topics/Units & Timeframes

A. Marine Ecology
B. Marine Mammals
C. Marine Birds and Reptiles
D. Marine Fishes
E. Marine Invertebrates
F. Marine Protists
G. Deep Sea Vent Communities
H. Marine Ecosystems

### Resources

- Text: *Marine Biology, 3rd Edition*, McGraw Hill/Glencoe, 2000
- Other: This class will be supported through a variety of readings, films and labs.