



VIRGINIA BEACH CITY PUBLIC SCHOOLS
CHARTING THE COURSE

Department of Teaching & Learning
Parent/Student Course Information

Dual Enrollment Oceanography
Tidewater Community College
(TC 4111/TC 4112)

One-half VBCPS credit, 4 TCC credits, one semester
Grades 10-12

Counselors are available to assist parents and students with course selections and career planning. Parents may arrange to meet with the counselor by calling the school's guidance department.

COURSE DESCRIPTION

Oceanography is a dual-enrollment course offered through Tidewater Community College over the course of two semesters. Oceanography I (GOL 111) is a one-semester course providing the successful student with four college semester credits and one-half Virginia Beach City Public Schools (VBCPS) elective credit. Oceanography II (GOL 112) is a one-semester course providing the successful student with four college semester credits and one-half Virginia Beach City Public Schools (VBCPS) elective credit. This course examines the dynamics of the oceans and ocean basins and applies the principles of physical, chemical, biological and geological oceanography.

*Tuition, fees and textbook fees are the responsibility of the student in accordance with the dual enrollment regulation (5-30.2).

PREREQUISITE

Earth Science for GOL 111

Earth Science and GOL 111 for GOL 112

The Instructional Objectives That Comprise Each Oceanography Course:

GOL 111:

- Describe the earth's composition and structure.
- Define atoms, elements, periodic table and how they apply to aspects of marine geology and sea water chemistry.
- Explain theory of plate tectonics in regards to crustal movement, volcanic, seismic, mountain building, structure of the sea floor, origin of volcanoes, earthquakes and mountains using the theory of plate tectonics.
- Define rock and sediment and how they form the ocean floor; identify properties of sea floor materials.
- Define the properties of water and components of sea salt.
- Describe the components of the atmosphere.
- Describe atmosphere and ocean relationships such as storms, pressure systems and winds.
- Explain the role of winds and thermohaline factors in horizontal and vertical current flow.
- Identify the major surface and deep currents of the world ocean.
- Utilize principles of bathymetric maps and charts to identify undersea landforms and position.
- Define the scientific method and how it is applied in science application.
- Describe shipboard oceanographic sampling techniques.

GOL 112:

- Classify the major types of waves.
- Illustrate changes in waves based on water depth.
- Recognize the difference between the Dynamic Theory of Tides and the Equilibrium Theory of Tides.
- Identify the processes that occur on and near the coastline.
- Define the factors that affect organisms living in the ocean.
- Recognize the differences between phytoplankton and zooplankton and between microalgae, macroalgae and plants.
- Discuss the adaptations that Marine Animals have to allow them to be successful.
- Define Marine Animals using taxonomic descriptions.
- Explain how Marine Organisms interact and form communities.
- Discuss the different types of Marine Resources.
- Recognize the types of Marine Environmental Issues.
- Perform shipboard Oceanographic sampling aboard R/V Matthew F. Maury.
- Examine the coastal environment by attending a mandatory beach trip.
- Understand the proper use of a microscope to examine marine specimens.
- Write a final lab project that illustrates material learned through two semesters of Oceanography.

Dr. Aaron C. Spence, Superintendent
Virginia Beach City Public Schools
2512 George Mason Drive, Virginia Beach, VA 23456-0038

Produced by the Department of Media and Communications for the Department of Teaching and Learning.
For further information please call (757) 263-1070.

Notice of Non-Discrimination Policy

Virginia Beach City Public Schools does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation/gender identity, pregnancy, childbirth or related medical condition, disability, marital status, age, genetic information or veteran status in its programs and activities and provides equal access to the Boy Scouts and other designated youth groups. School Board policies and regulations (including, but not limited to, Policies 2-33, 4-4, 4-6, 4-43, 5-7, 5-19, 5-20, 5-44, 6-7, 7-48, 7-49, 7-57 and Regulations 4-4.1, 4-4.2, 4-6.1, 4-43.1, 5-44.1, 7-11.1, 7-17.1 and 7-57.1) provide equal access to courses, programs, counseling services, physical education and athletic, vocational education, instructional materials and extracurricular activities.

To seek resolution of grievances resulting from alleged discrimination or to report violations of these policies, please contact the Title VI/Title IX Coordinator/Director of Student Leadership at (757) 263-2020, 1413 Laskin Road, Virginia Beach, Virginia, 23451 (for student complaints) or the Section 504/ADA Coordinator/Chief Human Resources Officer at (757) 263-1133, 2512 George Mason Drive, Municipal Center, Building 6, Virginia Beach, Virginia, 23456 (for employees or other citizens). Concerns about the application of Section 504 of the Rehabilitation Act should be addressed to the Section 504 Coordinator/Executive Director of Student Support Services at (757) 263-1980, 2512 George Mason Drive, Virginia Beach, Virginia, 23456 or the Section 504 Coordinator at the student's school. For students who are eligible or suspected of being eligible for special education or related services under IDEA, please contact the Office of Programs for Exceptional Children at (757) 263-2400, Laskin Road Annex, 1413 Laskin Road, Virginia Beach, Virginia, 23451.

Alternative formats of this publication which may include taped, Braille or large print materials are available upon request for individuals with disabilities. Call or write The Department of Teaching and Learning, Virginia Beach City Public Schools, 2512 George Mason Drive, P.O. Box 6038, Virginia Beach, VA 23456-0038. Telephone 263-1070 (voice); fax 263-1424; 263-1240 (TDD) or email her at Amanda.Malbon@VBSchools.com

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