Department of Teaching & Learning
Parent/Student Course Information

DUAL ENROLLMENT APPLIED CALCULUS
TIDEWATER COMMUNITY COLLEGE
(MTH 270)
One-half VBCPS credit, 3 TCC credits, One semester

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
Applied Calculus is a dual enrollment, one semester course providing the successful student with three college semester credits and one-half Virginia Beach City Public Schools (VBCPS) elective credit. This course provides an overview of calculus for students in the fields of business, economics and certain sciences. It covers limits, differentiation and integration of algebraic, exponential and logarithmic functions and introduces the calculus of several variables. It emphasizes the use of these concepts in various application problems.

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

PREREQUISITE
MTH 163 or appropriate score on the placement test
Objectives for MTH 270: Applied Calculus

Chapter 2: Derivatives and Their Uses
2.1 Limits and Continuity
2.2 Rates of Change, Slopes and Derivatives
2.3 Some Differentiation Formulas
2.4 The Product and Quotient Rules
2.5 Higher Order Derivatives
2.6 The Chain Rule and Generalized Power Rule
2.7 OMIT

Chapter 3: Further Applications of Differentiation
3.1 Graphing Using the First Derivative
3.2 Graphing Using the First and Second Derivative
3.3 Optimization
3.6 Implicit Differentiation and Related Rates
3.7 Differentials, Approximations and Marginal Analysis (cover lightly)

Chapter 4: Exponential and Logarithmic Functions
4.3 Differentiation of Logarithmic and Exponential Functions
4.4 Two Applications to Economics: Relative Rates and Elasticity of Demand

Chapter 5: Integration and Its Applications
5.1 Antiderivatives and Indefinite Integrals
5.2 Integration Using Logarithmic and Exponential Functions
5.3 Definite Integrals and Area (Just Cover the Definite Integral)
5.4 Further Applications of Definite Integrals: Average Value and Area between Curves
5.5 Two Economic Applications: Consumers’ Surplus and Income Distribution
5.6 Integration by Substitution

Chapter 6: Integration Techniques and Differential Equations
6.1 Integration by Parts
6.3 Improper Integrals

Chapter 7: Calculus of Several Variables
7.1 Functions of Several Variables
7.2 Partial Derivatives
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 him at Emmanuel.Cenizal@VBSchools.com

vbschools.com

your virtual link to Hampton Roads’ largest school system

VIRGINIA BEACH CITY PUBLIC SCHOOLS
CHARTING THE COURSE

No part of this publication may be produced or shared in any form without giving specific credit to Virginia Beach City Public Schools.

(Revised August 2017)