



VIRGINIA BEACH CITY PUBLIC SCHOOLS
CHARTING THE COURSE

Department of Teaching & Learning
Parent/Student Course Information

DUAL ENROLLMENT PRE-CALCULUS II
TIDEWATER COMMUNITY COLLEGE
MTH 164

One-half VBCPS credit, 3 TCC credits, One semester
Grades 11-12

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

Pre-Calculus II 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 is designed to prepare students for calculus. It includes trigonometric functions, identities, equations and applications, matrices and conic sections.

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

PREREQUISITE

MTH 163 Pre-Calculus I

Objectives for MTH 164: Pre-Calculus II

Unit I – Matrices and Determinants

- 6.1 Matrix Solutions to Linear Systems
- 6.2 Inconsistent and Dependent Systems and Their Applications
- 6.3 Matrix Applications and Their Applications
- 6.4 Multiplicative Inverses of Matrices and Matrix Equations
- 6.5 Determinants and Cramer's Rule

Unit II – Trigonometric Functions

- 7.1 Angles and Radian Measure
- 7.2 Right Triangle Trigonometry
- 7.3 Trigonometric Functions of Any Angle
- 7.4 Trigonometric Functions of Real Numbers: Periodic Functions
- 7.5 Graphs of Sine and Cosine Functions
- 7.6 Graphs of the Other Trigonometric Functions
- 7.7 Inverse Trigonometric Functions

Unit III – Analytic Trigonometry

- 8.1 Verifying Trigonometric Identities
- 8.2 Sum and Difference Identities
- 8.3 Double-Angle, Power-Reducing and Half-Angle Formulas
- 8.4 OMIT
- 8.5 Trigonometric Equations – STRESS

Unit IV – Additional Topics in Trigonometry

- 7.8 Applications of Trigonometric Functions
- 9.1 The Law of Sines
- 9.2 The Law of Cosines
- 9.3 OMIT
- 9.4 OMIT
- 9.5 Vectors
- 9.9 The Dot Product – OPTIONAL

Unit V – Conic Sections, Sequences and Series

- 2.8 Distance and Midpoint Formulas; Circles – COVER CIRCLES ONLY
- 10.1 The Ellipse
- 10.2 The Hyperbola
- 10.3 The Parabola
- 11.1 Sequences and Summation Notation
- 11.2 Arithmetic Sequences
- 11.3 Geometric Sequences and Series
- 11.4 Mathematical Induction – OPTIONAL
- 11.5 The Binomial Theorem

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For further information please call (757) 263-1070.

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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

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