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
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

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