

Virginia Western Community College

MTH 115

Technical Mathematics I

Prerequisites

MTE 1, MTE 2, MTE 3, MTE 4, MTE 5 and MTE 6 or a placement recommendation for MTH 115 or MTH 116 or equivalent.

Course Description

Presents algebra through exponential and logarithmic functions, trigonometry, vectors, analytic geometry, and complex numbers.

Semester Credits: 3

Lecture Hours: 3

Required Materials

Textbook:

Technical Mathematics (Chs 1-22). Calter. 6th edition. Wiley & Sons. ISBN 9780470534922

Other Required Materials:

Graphing calculator (Students are strongly encouraged to purchase a TI-89 graphing calculator in order to be able to carry out computations.

Course Outcomes

At the completion of this course, the student should be able to:

- Convert vectors to component forms and perform vector operations.
- Solve both right and non-right triangle problems using trigonometric ratios.
- Use matrices to solve 2x2 and 3x3 systems of equations.
- Graph and analyze linear and quadratic functions.
- Solve applied problems associated with engineering technology.

Topical Description

<u>Chapter</u>	<u>Topic</u>
2	Algebra Review (optional)
4	Functions (optional)
5	Graphing Linear Equations
6	Geometry
7	Trigonometry and Vectors for Right Triangles
8	Trigonometry and Vectors for Oblique Triangles
9	Systems of Linear Equations
10	Systems of Equations Using Matrices
11	Factoring and Fractions
12	Quadratic Equations
13	Exponents and Radicals

Notes to Instructors

1. The structure and order of topics covered in this class correspond to other courses in engineering technology which students may be enrolled in at the same time. The topics should be covered in the order prescribed above.