

Virginia Western Community College

MTT 1

Developmental Mathematics I

Prerequisites

None.

Course Description

Covers mathematics topics in a technology-based setting to prepare students for the study of college level mathematics courses and curricula. Designed for the study of one developmental math unit prescribed by the student's placement test results. Credits not applicable towards graduation.

Semester Credits: 1

Required Materials

Textbook:

MyLabs Plus Access Code. Pearson Publishing. ISBN: 9780558927189.

Other Required Materials:

Headphones, 3-ring binder, and either a basic calculator (for units 2-5) or a scientific calculator (for units 6-9)

Course Outcomes

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

Unit	Unit Name	Unit Description
MTE 1	Operations with Positive Fractions	<ul style="list-style-type: none"> Solve application problems using proper fractions, improper fractions, and mixed numbers. <p>All student learning outcomes for this unit must be completed without the use of a calculator. Emphasis should be placed on applications throughout the unit. Applications will use U.S. customary units of measurement. All fractions in this unit should be expressed in simplest form, unless otherwise indicated.</p>
MTE 2	Operations with Positive Decimals and Percents	<ul style="list-style-type: none"> Solve problems using decimals and percents. <p>Emphasis should be placed on applications throughout the unit. Applications will use U.S. customary and metric units of measurement.</p>
MTE 3	Algebra Basics	<ul style="list-style-type: none"> Perform basic operations with algebraic expressions and solve simple algebraic equations using signed numbers. <p>Emphasis should be placed on applications throughout the unit.</p>
MTE 4	First Degree Equations and	<ul style="list-style-type: none"> Solve first degree equations and inequalities containing one variable, and use them to solve application problems.

	Inequalities in One Variable	Emphasis should be on learning the steps to solving the equations and inequalities, applications and problem solving.
MTE 5	Linear Equations, Inequalities and Systems of Linear Equations in Two Variables	<ul style="list-style-type: none"> Factor polynomials and use learned techniques to solve polynomial equations. Emphasis should be on learning all the different factoring methods, and solving application problems using polynomial equations.
MTE 6	Exponents, Factoring and Polynomial Equations	<ul style="list-style-type: none"> Factor polynomials and use learned techniques to solve polynomial equations. Emphasis should be on learning all the different factoring methods, and solving application problems using polynomial equations.
MTE 7	Rational Expressions and Equations	<ul style="list-style-type: none"> Simplify rational algebraic expressions Solve rational algebraic equations and use them to solve application problems.
MTE 8	Rational Exponents and Radicals	<ul style="list-style-type: none"> Simplify radical expressions, and use rational exponents. Solve radical equations and use them to solve application problems.
MTE 9	Functions, Quadratic Equations and Parabolas	<ul style="list-style-type: none"> Engage in a thorough introduction to quadratic functions and their properties as they complete preparation for entering STEM or business administration college-level mathematics courses.

Topical Description

Each unit requires the student to complete eight homework assignments, a practice test, personalized review, and a final exam. Students must complete the homework assignments and review with 90% accuracy. As a minimum pace, students must complete five assignments and/or final exams every two weeks. In order to pass the unit, students must pass the final exam with a minimum score of 75%.

MTE 1 – Operations with Positive Fractions (No Calculator)

- HW 1: Sections 1.1, 1.2
- HW 2: Sections 1.3, 1.4
- HW 3: Section 1.5
- HW 4: Section 2.1
- HW 5: Sections 2.2, 2.3
- HW 6: Section 2.4
- HW 7: Section 2.5
- HW 8: Section 2.6

MTE 2 – Operations with Positive Decimals and Percents (Basic Calculator)

- HW 1: Sections 3.1, 3.2, 3.3
- HW 2: Sections 3.4, 3.5, 3.6
- HW 3: Sections 4.1, 4.2, 4.3, 4.4
- HW 4: Sections 5.1, 5.2

HW 5: Sections 5.3, 5.4
HW 6: Sections 5.5, 5.6, 5.7
HW 7: Sections 6.1, 6.2, 6.3, 6.4, 6.5
HW 8: Sections 7.1, 7.2

MTE 3 – Algebra Basics (Basic Calculator)

HW 1: Sections 8.1, 8.2
HW 2: Section 8.3
HW 3: Section 8.4
HW 4: Sections 8.5, 8.6
HW 5: Sections 8.7, 8.8
HW 6: Sections 9.1, 9.2
HW 7: Section 9.3
HW 8: Sections 9.4, 9.5, 9.6

MTE 4 – First Degree Equations and Inequalities in One Variable (Basic Calculator)

HW 1: Sections 10.1, 10.2
HW 2: Section 10.3
HW 3: Section 10.4
HW 4: Section 10.5
HW 5: Section 10.6
HW 6: Sections 10.7, 10.8
HW 7: Section 10.9
HW 8: Section 10.10

MTE 5 – Linear Equations, Inequalities and Systems of Linear Equations in Two Variables (Basic Calculator)

HW 1: Sections 11.1, 11.2
HW 2: Sections 11.3
HW 3: Section 11.4, 11.5 B
HW 4: Section 11.6 A, 11.7
HW 5: Section 11.5 A, C, D, E, 11.6 B, C
HW 6: Sections 12.1
HW 7: Section 12.2, 12.3
HW 8: Section 12.4

MTE 6 – Exponents, Factoring and Polynomial Equations (Scientific Calculator)

HW 1: Sections 13.1, 13.2
HW 2: Sections 13.3, 13.4
HW 3: Sections 13.5, 13.6
HW 4: Section 14.1
HW 5: Sections 14.2, 14.3
HW 6: Sections 14.4, 14.5
HW 7: Section 14.6
HW 8: Section 14.7

MTE 7 – Rational Expressions and Equations (Scientific Calculator)

- HW 1: Section 15.1
- HW 2: Section 15.2
- HW 3: Section 15.3 (Like Denominators)
- HW 4: Section 15.3 (LCD)
- HW 5: Section 15.4
- HW 6: Section 15.5
- HW 7: Section 15.6
- HW 8: Section 15.7

MTE 8 – Rational Exponents and Radicals (Scientific Calculator)

- HW 1: Section 16.1
- HW 2: Section 16.2
- HW 3: Section 16.3
- HW 4: Section 16.4
- HW 5: Section 16.5
- HW 6: Section 16.6 (Equations)
- HW 7: Section 16.6 (Problem Solving)
- HW 8: Section 16.7

MTE 9 – Functions, Quadratic Equations, and Parabolas (Scientific Calculator)

- HW 1: Section 17.1
- HW 2: Section 17.2 (Square Root Property)
- HW 3: Section 17.2 (Complete the Square)
- HW 4: Section 17.3 (Quadratic Formula)
- HW 5: Section 17.3 (Discriminant and Applications)
- HW 6: Section 17.4
- HW 7: Section 17.5 (Graph)
- HW 8: Section 17.5 (Applications)

Notes to Instructors

None.