

Montgomery County Community College
MAT 080
Fundamentals of Mathematics
0-4-0

COURSE DESCRIPTION:

A fundamental course in basic mathematical skills with an introduction to algebraic concepts. This course does not offer degree credit. Topics include solving linear equations, graphing principles, literal equations, operations on signed numbers, fractions, decimals, percents, and other arithmetic topics. This precollege level course cannot be used to fulfill a degree requirement, nor is it calculated in a student's Grade Point Average (GPA).

REQUISITES:

Previous Course Requirements

None

Previous or Concurrent Course Requirements

None

COURSE COMMENT(S):

Placement into MAT 080 follows a college-approved multiple measures placement method, which may include a placement exam.

LEARNING OUTCOMES Upon successful completion of this course, the student will be able to:	LEARNING ACTIVITIES	EVALUATION METHODS
1. Identify historical and cultural perspectives on the development of math and number systems.	Lecture Group Work	Assignments Test
2. Locate and compare real numbers.	Discovery Activities Group Work	Assignments Test
3. Compute sums and differences of real numbers and solve equations and applications.	Discovery Activities Group Work	Assignments Test
5. Compute the product and quotient of real numbers and solve multiplication and division applications and equations.	Discovery Activities Group Work	Assignments Test
7. Utilize the order of operations to simplify	Discovery Activities Group Work	Assignments Test

expressions and applications with signed real numbers and variables.		
9. Convert between scientific and standard notation.	Discovery Activities Group Work	Assignments Test
10. Solve multi-step linear and literal equations.	Discovery Activities Group Work	Assignments Test
11. Solve and graph linear inequalities with one variable.	Discovery Activities Group Work	Assignments Test
12. Solve applications of linear equations and percentages.	Discovery Activities Group Work	Assignments Test
13. Solve applications of ratio and proportion problems including unit conversion.	Discovery Activities Group Work	Assignments Test
14. Use and interpret the Cartesian coordinate system in graphing lines using points, intercepts, slope.	Discovery Activities Group Work	Assignments Test

At the conclusion of each semester/session, assessment of the learning outcomes will be completed by course faculty using the listed evaluation method(s). Aggregated results will be submitted to the Director of Educational Effectiveness. The benchmark for each learning outcome is that *70% of students will meet or exceed outcome criteria.*

SEQUENCE OF TOPICS:

1. History of numbers
2. Compare and locate real numbers
3. Addition/Subtraction
4. Multiplication/Division
5. Combinations and order of operations
6. Reading and writing scientific notation
7. Solving multi-step linear equations
8. Solving linear inequalities
9. Solving literal equations
10. Solving percentage problems
11. Solving ratio and unit conversion problems
12. The cartesian coordinate system and linear graphs

LEARNING MATERIALS:

Textbook: Developmental Mathematics, 4th edition, Elayn Martin-Gaye, Pearson or Elementary Algebra, 2e, OpenStax

Other learning materials may be required and made available directly to the student and/or via the College's Libraries and/or course management system.

COURSE APPROVAL:

Prepared by: Stephanie Isaac

Date: 2/22/2023

VPAA or designee Compliance Verification:

Date: 2/22/2023

A handwritten signature in cursive script, appearing to read "Sherol J. Dix".

This course is consistent with Montgomery County Community College's mission. It was developed, approved, and will be delivered in full compliance with the policies and procedures established by the College.