Course Number and Title: ACM 011 Algebra I

Campus Location:
Georgetown

Effective Date:
2021-51

Prerequisite:
Qualifying scores for admission to Academic Challenge

Co-Requisites:
None

Course Credits and Hours:
2.25 credits
2.25 lecture hours/week
0.00 lab hours/week

Course Description:
This course focuses on elementary algebra terminology, properties, polynomial operations, factoring, fractional simplification, exponents, roots, coordinate graphing and solving of linear equations, linear inequalities, and quadratic equations.

Required Text(s):
Obtain current textbook information by viewing the campus bookstore - https://www.dtcc.edu/bookstores online or visit a campus bookstore. Check your course schedule for the course number and section.

Additional Materials:
Access to a computer, the Internet and TI-83 Graphing Calculator.

Schedule Type:
Classroom Course

Disclaimer:
None

Core Course Performance Objectives (CCPOs):

1. Apply the principles of algebra to solve linear equations and inequalities. (CCC 2, 6)
2. Evaluate and derive functions. (CCC 2, 6)
3. Graph representations of functions. (CCC 2, 6)
4. Apply principles of algebra to manipulate polynomials and solve polynomial equations. (CCC 2, 6)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):
Upon completion of this course, the student will:

1. Apply the principles of algebra to solve linear equations and inequalities.
    1. Solve linear equations.
    2. Solve for a variable in an equation or formula.
    3. Express the solution to linear inequalities in one variable in interval and graphical form.
    4. Solve absolute value equations and inequalities.
    5. Formulate solutions to application problems involving linear and absolute value equations and inequalities.
2. Evaluate and derive functions.
    1. Sketch graphs of functions.
    2. Differentiate between relations and functions.
    3. Identify and evaluate functions.
    4. Determine the domain and range of a relation or function from the graph or set of points that defines the relation or function.
3. Graph representations of functions.
    1. Apply the definition of slope to determine both equations and graphs of lines.
    2. Transfer the relationship of slope and parallel/perpendicular lines to derive an equation of a line that is either perpendicular or parallel to another line.
    3. Derive functions that are defined as the arithmetic sum, difference, product, or quotient of two other functions.
4. Apply principles of algebra to manipulate polynomials and solve polynomial equations.
    1. Perform basic operations on polynomial expressions, including synthetic division.
    2. Factor polynomials.
    3. Solve polynomial equations by factoring and graphing techniques.
    4. Formulate solutions to application problems involving polynomial equations.

Evaluation Criteria/Policies:
Students must demonstrate proficiency on all CCPOs at a minimal 75 percent level to successfully complete the course. The grade will be determined using the scale below:

92	–	100	=	A
83	–	91	=	B
75	–	82	=	C
0	–	74	=	F

Students should refer to the Student Handbook - https://www.dtcc.edu/handbook for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):
None

Disabilities Support Statement:
The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the disabilities services - https://www.dtcc.edu/disabilitysupport web page or visit the campus Advising Center.