



COURSE OUTLINE: MTH121 - ALGEBRA

Prepared: Math Department

Approved: Bob Chapman, Chair, Health

Course Code: Title MTH121: ALGEBRA

Program Number: Name 1105: GAS - ONE-YEAR

Department: MATHEMATICS

Semesters/Terms: 22W

Course Description: In this introductory algebra course students will learn concepts and skills leading to applications. For those planning to enter programs that require technical math, this course establishes a solid foundation. This course is also well suited to those who are entering fields of study where math is not a required component of the curriculum but a working knowledge of algebra is expected. Topics of study include: polynomials, factoring, graphing, solving linear equations and systems, exponents and radicals, and quadratic equations.

Total Credits: 5

Hours/Week: 5

Total Hours: 75

Prerequisites: There are no pre-requisites for this course.

Corequisites: There are no co-requisites for this course.

Vocational Learning Outcomes (VLO's) addressed in this course:

Please refer to program web page for a complete listing of program outcomes where applicable.

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VLO 3 Understand and utilize critical thinking processes and problem solving techniques.

Essential Employability Skills (EES) addressed in this course:

EES 3 Execute mathematical operations accurately.

EES 4 Apply a systematic approach to solve problems.

EES 5 Use a variety of thinking skills to anticipate and solve problems.

EES 10 Manage the use of time and other resources to complete projects.

Course Evaluation: Passing Grade: 50%, D

A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.

Books and Required Resources:

Calculator -
Sharp EL-520XTB (Available in Bookstore)

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
1. Use basic algebraic	1.1 Operations with Fractions

In response to public health requirements pertaining to the COVID19 pandemic, course delivery and assessment traditionally delivered in-class, may occur remotely either in whole or in part in the 2021-2022 academic year.



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concepts to solve linear equations.	1.2 Order of Operations 1.3 Algebraic Properties 1.4 Solving One-Step Equations 1.5 Solving Two-Step Equations 1.6 Solving Linear Equations 1.7 Solving Literal Formulas
Course Outcome 2	Learning Objectives for Course Outcome 2
2. Solve systems of linear equations using graphical and algebraic methods.	2.1 Identify equations for lines and recognize different forms 2.2 Compare parallel lines and perpendicular lines 2.3 Solve system of linear equations graphically 2.4 Solve system of linear equations algebraically 2.5 Investigate applications using systems of linear equations 2.6 Solving three dimensional systems of equations
Course Outcome 3	Learning Objectives for Course Outcome 3
3. Understand all operations with polynomials	3.1 Explain the exponent properties 3.2 Explain what is done with negative exponents 3.3 Investigate multiplying and dividing polynomials 3.4 Investigate adding and subtracting polynomials 3.5 Explain special products
Course Outcome 4	Learning Objectives for Course Outcome 4
4. Use a variety of factoring techniques and have ability to recognize them	4.1 Find the Greatest Common Factor (GCF) 4.2 Factor by grouping terms 4.3 Factor basic trinomials ($a = 1$) 4.4 Factor general trinomials 4.5 Factor special products using factoring strategies
Course Outcome 5	Learning Objectives for Course Outcome 5
5. Use factoring techniques to simplify and solve rational expressions and equations.	5.1 Review factoring techniques 5.2 Multiply and divide rational expressions 5.3 Add and subtract rational expressions 5.4 Simplify rational expressions with all operations 5.5 Solve rational expressions
Course Outcome 6	Learning Objectives for Course Outcome 6
6. Solve quadratic equations using a variety of techniques	6.1 Investigate graphs of quadratics 6.2 Solve equations with radicals and exponents 6.3 Solve quadratics by factoring 6.4 Solve quadratics by completing the square 6.5 Investigating solutions using quadratic formula and discriminant

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments	28%
Tests (6)	72%

Date:

December 8, 2021

Addendum:

Please refer to the course outline addendum on the Learning Management System for further

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