



COURSE OUTLINE: MTH121 - ALGEBRA

Prepared: Math Department
Approved: Sherri Smith, Chair, Natural Environment, Business, Design and Culinary

Course Code: Title	MTH121: ALGEBRA
Program Number: Name	1105: GAS - ONE-YEAR
Department:	MATHEMATICS
Semesters/Terms:	19W
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.
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

Course Outcomes and Learning Objectives:	Course Outcome 1	Learning Objectives for Course Outcome 1
	1. Use basic algebraic concepts to solve linear equations.	1.1 Operations with Fractions 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:	<table><tr><th>Evaluation Type</th><th>Evaluation Weight</th><th>Course Outcome Assessed</th></tr><tr><td>Assignments</td><td>20%</td><td></td></tr><tr><td>Tests (6)</td><td>80%</td><td></td></tr></table>		Evaluation Type	Evaluation Weight	Course Outcome Assessed	Assignments	20%		Tests (6)	80%	
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Assignments	20%										
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Date:	July 11, 2018										
	Please refer to the course outline addendum on the Learning Management System for further information.										