

Standard  Institutionally Developed College: N/A

EDGE Compatible: No

**Pre-requisites**

MATH 0098 - Elementary Algebra ( 201003 )

**Co-requisites**

**Course Description**

Emphasizes concepts and operations which are applied to the study of algebra. Topics include basic mathematical concepts, basic algebraic concepts, and intermediate algebraic concepts.

**Course Length**

	Minutes	Contact Unit
Lecture:	2250	
Lab 2:	0	
Lab 3:	0	
Practicum/Internship:	0	
Clinical:	0	
Total:	2250	3
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Semester Credit Hours:		3

**Competencies**

Order	Description	Lecture	Lab2	Lab3	Practicum/Internship	Clinical	Total Minutes	Semester Credit Hrs
1	Basic Mathematical Concepts	225	0	0	0	0	225	0
2	Basic Algebraic Concepts	1350	0	0	0	0	1350	1
3	Intermediate Algebraic Concepts	675	0	0	0	0	675	0
<b>Totals for Course MATH 1013 - Algebraic Concepts ( version 201003 ):</b>		<b>2250</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2250</b>	<b>3</b>

**Learning Outcomes**

Basic Mathematical Concepts			
Order	Description	Learning Domain	Level of Learning
1	Solve problems using exponents, roots, and scientific notation.	Cognitive	Application

Order	Description	Learning Domain	Level of Learning
2	Simplify radicals and use them in arithmetic operations.	Cognitive	Application
3	Use a scientific calculator to perform basic arithmetic operations.	Cognitive	Application
4	Perform operations using signed numbers.	Cognitive	Application
5	Define absolute value and use in calculations.	Cognitive	Knowledge
6	Use signed numbers in application problems.	Cognitive	Analysis
7	Apply hierarchy of operations to solve mathematical problems requiring multiple operations.	Cognitive	Application

#### Basic Algebraic Concepts

Order	Description	Learning Domain	Level of Learning
1	Define concept and notation used for variable quantities.	Cognitive	Knowledge
2	Combine like terms.	Cognitive	Application
3	Perform operations on algebraic expressions.	Cognitive	Application
4	Expand expressions with exponents.	Cognitive	Application
5	Factor polynomials.	Cognitive	Application
6	Solve linear equations.	Cognitive	Application
7	Solve quadratic equations by factoring and by use of the quadratic formula.	Cognitive	Application
8	Solve formulas for a designated unknown.	Cognitive	Application
9	Solve applied problems involving linear or quadratic equations.	Cognitive	Analysis

#### Intermediate Algebraic Concepts

Order	Description	Learning Domain	Level of Learning
1	Define the concept of one variable being a function of another.	Cognitive	Knowledge
2	Evaluate linear and quadratic functions.	Cognitive	Application
3	Graph linear and quadratic functions on the rectangular and coordinate system.	Cognitive	Application
4	Solve applied problems using linear and quadratic functions.	Cognitive	Analysis
5	Solve systems of linear equations with 2 and 3 variable using elimination, substitution, graphing and determinants.	Cognitive	Application

#### References

Order	Reference Type	Description
1	Book with Author(s) Listed	Aufman, Barker, & Lockwood. (2005). Introductory algebra, an applied approach. (7th). Boston, MA: Houghton Mifflin.
2	Book with Author(s) Listed	Bittinger, M. & Beecher, J.. (2008). Developmental mathematics. (7th). Boston, MA: Pearson.
3	Book with Author(s) Listed	Lial, Hornsby & McGinnis. (2005). Introductory and intermediate algebra. (3rd). Boston, MA: Pearson Education.

Order	Reference Type	Description
4	Book with Author(s) Listed	Sharma, M.. (2005). Beginning algebra. (5th). ?: Educo International.
5	Book with Author(s) Listed	Bello, I.. (2009). Basic college mathematics: A real-world approach. (3rd). New York, NY: McGraw Hill.