

MATH 1013 - Algebraic Concepts (version 201312L)

Course Title Course Development Learning Support

Algebraic Concepts Standard No

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.

Pre-requisites

MATH 0098 - Elementary Algebra OR Appropriate algebra placement test score.

Regstr. Co-requisites

Regstr. Co-requisites: None

True Co-requisites

True Co-requisites: None

Course Length

	Lecture Contact Time	Regular Lab Type	Reg. Lab Contact Time	Other Lab Type	Oth. Lab Contact Time	Total Contact Hrs
Contact Hours Per Week	3 hrs	N/A	0 hrs	N/A	0 hrs	3 hrs
Contact Min/Hrs Per Semester	2250 min		0 min		0 min	45 hrs
	Lecture Credit Hours		Lab Credit Hours	Total Credit hours		WLU
Semester Credit Hours	3		0	3		101.25

Competencies & Outcomes

Order Description

1 Basic Mathematical Concepts

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

2 Basic Algebraic Concepts

Order	Description	Learning Domain	Level of Learning
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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	Compute the value of expressions using the laws of 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
10	Set-up and solve problems with direct, inverse, and joint variations. (Optional)	Cognitive	Application

3 Intermediate Algebraic Concepts

Order	Description	Learning Domain	Level of Learning
1	Define relations and functions.	Cognitive	Knowledge
2	Evaluate linear and quadratic functions.	Cognitive	Application
3	Graph linear and quadratic functions on the rectangular coordinate system.	Cognitive	Application
4	Solve applied problems using linear and quadratic functions.	Cognitive	Analysis
5	Solve systems of linear equations with two unknowns.	Cognitive	Application
6	Solve systems of linear equations with three unknowns. (Optional)	Cognitive	Application