ORIGINATION DATE:	10/24/05	**APPROVAL DATE:**	3/28/12	
LAST MODIFICATION DATE:	5/24/12	**EFFECTIVE TERM/YEAR:**	FALL/ 12	

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COURSE ID: MATH0850

COURSE TITLE: Beginning Algebra

	LECTURE	LAB	CLINICAL	TOTAL	OBR MIN	OBR MAX
CREDITS:	3.00	0.00	0.00	3.00	3.00	3.00
CONTACT HOURS:	3.00	0.00	0.00	3.00		

PREREQUISITE:

a grade of "SC" or better in MATH 0745 or placement test

COURSE DESCRIPTION:

This course is designed for students who have never taken algebra. Topics include simplification of algebraic expressions, order of operations, solutions and graphs of linear equations, systems of two linear equations in two unknowns, simple linear inequalities, compound linear inequalities, absolute value equations and inequalities, polynomial arithmetic, integer exponents, and scientific notation. Techniques include numerical, analytical, and graphical methods. Credits in this course will not satisfy any degree or certificate requirements.

RATIONALE FOR COURSE:

This course introduces and develops basic knowledge of algebraic structures that serve as a foundation for other mathematics courses. In addition, problem solving skills are developed that are useful in other disciplines.

GENERAL COURSE GOALS:
The course will

1.   Introduce students to mathematics as a symbolic language and structure that is useful in solving real-world problems.

2.   Develop a basic understanding of how to use algebraic skills to model and solve real-world problems.

3.   Develop students' ability to translate between English and Math.

4.   Develop students' confidence to solve problems analytically.

5.   Develop algebraic, graphical, and numerical techniques for solving problems.

COURSE OBJECTIVES:
Upon completion of the course, the student should be able to

1.   Evaluate algebraic expressions.

2.   Solve a linear equation in one variable by using appropriate methods: Applying addition, subtraction, multiplication, and division axioms in sequence, removing group symbols, and clearing fractions.

3.	Solve literal equations and formulas and demonstrate their use in solving real-world problems.

4.	Graph a linear equation in two variables.

5.	Find the slope of a line and describe the slope as an average rate of change.

6.	Write the equation of a line given two points or a point and a slope.

7.	Determine if two lines are parallel or perpendicular geometrically and analytically.

8.	Use linear equations and their graphs to model and solve real-world problems.

9.	Use graphing to solve a system of two linear equations in two unknowns.

10.	Use substitution and elimination to solve a system of two linear equations in two unknowns.

11.	Solve application problems involving a system of two linear equations in two unknowns.

12.	Express intervals on the real number line using interval notation.

13.	Solve simple linear inequalities, graph their solution set on the number line, and express the solution set using interval notation.

14.	Use simple linear inequalities to model, and solve real-world problems.

15.	Solve simple linear inequalities in two variables and graph the solution set.

16.	Solve compound linear inequalities, graph their solution set on the number line, and express the solution set using interval notation.

17.	Use compound linear inequalities to model and solve real-world problems.

18.	Solve equations and inequalities involving absolute values.

19.	Use absolute value equations and inequalities to model and solve real-world problems.

20.	Add, subtract, multiply, and divide polynomials.

21.	Simplify expressions involving integer exponents.

22.	Perform scientific notation and standard form conversions and use scientific notation in performing computations.

23.	Communicate about algebra/mathematics in writing.

COURSE OUTLINE:

I.	Introduction to Algebra
	A.	Review of real number arithmetic
		1.	Addition, subtraction, multiplication, and division
		2.	Positive exponents
		3.	Order of operations
	B.	The meaning of variable and constant
	C.	Translating between English and Math
	D.	Evaluating algebraic expressions

E. Simplifying algebraic expressions
    1. Commutative, associative, and distributive properties

II. Linear equations
    A. Linear equations and the addition rule
    B. Linear equations and the multiplication rule
    C. Solving linear equations by combining rules
    D. Solving literal equations and formulas
    E. Applications and problem solving (including geometry and percent applications)

III. Graphing
    A. The rectangular coordinate system
        1. Plotting order pairs
        2. Quadrants
    B. Graphing linear equations
        1. Finding x- and y-intercepts and graph
        2. Slope
            a. Geometric interpretation
            b. Slope as a rate of change
        3. Slope-intercept form of a line
        4. General form of a line
    C. Writing linear equations
        1. Given two points
        2. Given a point and a slope
    D. Parallel and perpendicular lines
    E. Modeling with linear equations

IV. Systems of Two Linear Equations in Two Unknowns
    A. Graphical solution
    B. Substitution and elimination
    C. Applications involving systems of two linear equations in two unknowns

V. Simple Linear Inequalities
    A. Interval notation
    B. Simple linear inequalities and the addition rule
    C. Simple linear inequalities and the multiplication rule
    D. Solving simple linear inequalities by combining rules
    E. Applications and problem solving
    F. Solving simple linear inequalities in two variables and graphing the solution set

VI. Compound Linear Inequalities
    A. Solving compound inequalities
        1. Involving "and" (intersection)
        2. Involving "or" (union)
    B. Applications involving compound linear inequalities

VII. Absolute Value Equations and Inequalities
    A. Absolute value equations
    B. Absolute value inequalities
    C. Applications involving the absolute value

VIII. Polynomials
    A. Polynomial Arithmetic
        1. Addition and subtraction of "like" terms
        2. Multiplication and properties of exponents
        3. Long division

IX. Integer Exponents
    A. Definition and properties of integer exponents
    B. Scientific notation

INSTRUCTIONAL PROCEDURES THAT MAY BE UTILIZED:

Lecture/discussion sessions
Collaborative/Group activities
Laboratory activities with worksheets, graphing calculators, or computer
Modeling a problem situation with data from the Internet or other source
Problem solving sessions at the blackboard
Video tapes and tutorial instruction
Student projects and presentations and written reports

GRADING PROCEDURES:

1.　　A grade of C or better is required for successful completion of the course.

2.　　Instructors must abide by the following departmental guidelines:
　　　　a.　　80% or more of any test, midterm, or final exam must be without the
　　　　　　　aid of books, notes, cheat sheets, other people, etc.
　　　　b.　　80% of more of every student's final grade is based on exams and
　　　　　　　quizzes that were conducted in class without the use of notes, books,
　　　　　　　cheat sheets, other people, etc.

COURSE EVALUATION PROCEDURES:

Formal and informal feedback from students and faculty
Review of student performance in subsequent mathematics courses

LAKELAND LEARNING OUTCOMES

		Methods of Assessment								
LEARNS ACTIVELY		1	2	3	4	5	6	7	8	9
1.	Takes responsibility for his/her own learning									
2.	Uses effective learning strategies									
3.	Reflects on effectiveness of his/her own learning strategies									

THINKS CRITICALLY		1	2	3	4	5	6	7	8	9
4.	Identifies an issue or idea									
5.	Explores perspectives relevant to an issue or idea									
6a.	Identifies options or positions									
6b.	Critiques options or positions									
7.	Selects an option or position	1								
8a.	Implements a selected option or position									
8b.	Reflects on a selected option or position									

COMMUNICATES CLEARLY		1	2	3	4	5	6	7	8	9
9a.	Uses correct spoken English									
9b.	Uses correct written English									
10.	Conveys a clear purpose									
11.	Presents ideas logically									
12a.	Comprehends the appropriate form(s) of expression									
12b.	Uses the appropriate form(s) of expression									
13.	Engages in an exchange of ideas									

USES INFORMATION EFFECTIVELY		1	2	3	4	5	6	7	8	9
14.	Develops an effective search strategy									
15a.	Uses technology to access information									
15b.	Uses technology to manage information									
16.	Uses selection criteria to choose appropriate information									
17.	Uses information responsibly									

INTERACTS IN DIVERSE ENVIRONMENTS		1	2	3	4	5	6	7	8	9
18a.	Demonstrates knowledge of diverse ideas									
18b.	Demonstrates knowledge of diverse values									
19.	Describes ways in which issues are embedded in relevant contexts									
20a.	Collaborates with others									
20b.	Collaborates with others in a variety of situations									
21.	Acts with respect for others									

Methods of Assessment Codes:		
1. Test/Examination	4. Collaborative Writing	7. Portfolio
2. Homework/Written Assignment	5. Presentation	8. Demonstration of Skills
3. Research Project	6. Lab Project	9. Other (Specify in Grading Procedures)