LAKELAND COMMUNITY COLLEGE – COURSE OUTLINE FORM

*** APPROVED VERSION, EFFECTIVE Fall/ 16

ORIGINATION DATE:	10/24/05	**APPROVAL DATE:**	2/16/11
LAST MODIFICATION DATE:	10/21/15	**EFFECTIVE TERM/YEAR:**	FALL/ 16

PRINTED: 8/30/2016

COURSE ID: **MATH0745**

COURSE TITLE: Essential Skills for Algebra

	LECTURE	LAB	CLINICAL	TOTAL	OBR MIN	OBR MAX
CREDITS:	2.00	0.00	0.00	2.00	2.00	2.00
CONTACT HOURS:	2.00	0.00	0.00	2.00		

PREREQUISITE:

Placement Test

COURSE DESCRIPTION:

This course reviews and develops fundamental arithmetic skills regarding rational numbers and introduces techniques for solving basic linear equations. Topics include whole numbers, integers, fractions, decimals, ratios, rates, proportions, percent, linear equations, and applications. Students must supply a scientific calculator. Credits in this course will not satisfy any degree or certificate requirements. This course is offered as satisfactory/unsatisfactory only.

RATIONALE FOR COURSE:

Some students enter Lakeland Community College with an insufficient background in arithmetic. This course reviews and further develops fundamental arithmetic skills that are required for success in mathematics and mathematics related courses. Throughout the course students will be introduced to algebra and techniques for solving basic linear equations. Students must be placed into this course as a result of taking a placement test.

OUTCOMES:
The course will

1.   Provide students with solid and thorough computational skills.

2.   Present systematically the properties of the rational numbers.

3.   Enable students to recognize the need for precision within the language of mathematics.

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

5.   Introduce students to problem-solving strategies to model and solve real-world problems.

PERFORMANCE INDICATORS:
Upon completion of the course, the student should be able to

1.   Perform operations of addition, subtraction, multiplication, and division with whole numbers, integers, fractions, mixed numbers, and decimals.

2. Apply equation solving techniques to solve a one variable linear equation involving whole numbers, integers, fractions, and decimals.

3. Estimate results.

4. Convert between fraction, decimal, and percent notation.

5. Solve application problems involving percent.

6. Apply ratios and proportions to solve application problems.

7. Evaluate algebraic expressions.

8. Model real-world relationships using algebraic expressions.

9. Translate English sentences into algebraic equations.

10. Use problem solving strategies to solve real-world applications.

COURSE OUTLINE:

I. Whole Numbers
    A. Introduction to whole numbers
    B. Addition, subtraction, multiplication, and division of whole numbers
    C. Rounding, estimating, and order of whole numbers
    D. Exponential notation and the Order of Operations with whole numbers
    E. Introduction to variables
    F. Introduction to solving simple linear equations with whole numbers
    G. Applications and problem solving with whole numbers

II. Integers
    A. Introduction to integers and the number line
    B. Addition, subtraction, multiplication, and division of integers
    C. Exponents and the Order of Operations with integers
    D. Evaluating variable expressions and combining like terms
    E. Solving simple linear equations with integers
    F. Applications and problem solving with integers

III. Fractions
    A. Prime numbers and prime factorization
    B. The least common multiple and the greatest common factor
    C. Introduction to fractions and simplifying fractions
    D. Addition, subtraction, multiplication, and division of fractions and mixed numbers
    E. Exponents and the Order of Operations with fractions
    F. Solving simple linear equations with fractions
    G. Applications and problem solving with fractions

IV. Decimals
    A. Introduction to decimals
    B. Order and rounding of decimals
    C. Addition, subtraction, multiplication, and division of decimals
    D. Comparing and converting fractions and decimals
    E. Solving simple linear equations with decimals
    F. Applications and problem solving with decimals

V. Ratio and Proportion
    A. Ratios and applications
    B. Rates and applications
    C. Proportions and applications

VI. Percent
    A. Introduction to percent

B.   Converting between percent notation and decimal notation
C.   Converting between percent notation and fraction notation
D.   Solving percent equations
E.   percent increase and percent decrease
F.   Percent applications

INSTRUCTIONAL PROCEDURES THAT MAY BE UTILIZED:

Lecture and discussion
Collaborative/Group activities
Technology-based activities
Internet activities
Videos
Problem solving sessions at the whiteboard
Student projects and presentations and written reports
Scientific calculator instruction

GRADING PROCEDURES:

It is recommended that instructors have at least four evaluative items (collected homework, portfolio, quizzes, tests, group and/or individual projects, final examination) on which to determine student's final grade. Specific grading procedures will be announced by each instructor at the beginning of the semester and will be stated in the syllabus to be given to each student.

Satisfactory/Unsatisfactory grading; a grade of 75% or higher is required for successful completion of the course.

COURSE EVALUATION PROCEDURES:

Student evaluations
Student success rate in subsequent Math courses
Department Review

LAKELAND STUDENT 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	2							
8a.	Implements a selected option or position	1	2							
8b.	Reflects on a selected option or position	1	2							

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	1	2							
12a.	Comprehends the appropriate form(s) of expression	1	2							
12b.	Uses the appropriate form(s) of expression	1	2							
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)