COURSE OUTLINE

Mathematics 219C
Intermediate Algebra I

I.   Catalog Statement

Mathematics 219C is the third part of a self-paced multimedia course. Mathematics
219ABC collectively is equivalent to the first course of a two-semester sequence of
Intermediate Algebra. Topics include fundamental laws, curve plotting, linear equations,
fractional exponents, radical and rational expressions and equations, factoring, functions,
Cramer's rule, algebra of functions, graphs of functions, and systems of linear equations
and inequalities. Mathematics 219ABC collectively is equivalent to Mathematics 119.

Total Lecture Units: 1.0
Total Course Units: 1.0

Total Laboratory Hours: 48.0 (3 hours per week)
Total Faculty Contact Hours: 48.0 (3 hours per week)

Total Class Hours To Be Arranged: 48.0 (3 hours per week)

Prerequisite: Mathematics 219B or 2 units of Mathematics 219.

Note: This course may not be taken for credit by students who have completed
Mathematics 101, 131 or 119. A maximum of 3 units of credit will be granted for
Mathematics 119 and 219. A maximum of 5 units will be granted for Mathematics 219 and
131.

II.   Course Entry Expectations

Skills Level Ranges: Reading 5; Writing 4; Listening-Speaking 5; Math 4

Prior to enrolling in the course, the student should be able to:

1. add, subtract, multiply, and divide real numbers;
2. solve linear equations and inequalities;
3. solve absolute value equations and inequalities;
4. simplify exponential expressions;
5. add, subtract, multiply, and divide polynomials;
6. graph linear equations and inequalities;
7. find the equation of the line passing through 2 points;
8. solve linear systems using 3 different methods;
9. use algebra to solve applied problems;
10. use function notation;
11. factor polynomials;
12. add, subtract, multiply, and divide algebraic fractions;
13. solve rational equations;

14. use algebra to solve applied problems;
15. use the properties of radicals to simplify radicals;
16. add, subtract, multiply, and divide radicals;
17. solve radical equations;
18. solve quadratic equations by factoring, completing the square, and using the quadratic formula;
19. graph quadratic functions and circles,
20. use the distance formula to find the distance between two points.

III. Course Exit Standards

Upon successful completion of the coursework, the student will be able to:

1. solve absolute value equations and inequalities;
2. solve linear equations and compound inequalities;
3. graph lines;
4. perform operations with polynomials;
5. simplify complex fractions;
6. perform operations with radical expressions;
7. simplify expressions with rational exponents;
8. divide synthetically;
9. solve rational equations;
10. solve equations with radicals;
11. find the equation of a line parallel or perpendicular to a given line;
12. solve a system of linear equations using elimination, substitution, and Cramer's rule;
13. solve systems of linear inequalities;
14. find the composition of two functions;
15. solve applied problems.

IV. Course Content   Total Contact Hours = 96

A. Rational Expressions
    1. Simplifying rational expressions
    2. Multiplying and dividing rational expressions
    3. Adding and subtracting rational expressions
    4. Complex fractions
    5. Equations containing rational expressions
    6. Applications
    7. Difference quotients
B. Rational Exponents and Radicals
    1. Rational exponents
    2. Radical expressions
    3. Adding and subtracting radical expressions
    4. Multiplying and dividing radical expressions
    5. Solving equations with radicals
    6. Applications of radicals
    7. Complex numbers

V. Methods of Instruction

The following instructional methodologies may be used in the course:
1. weekly meetings with instructor;
2. video instruction;
3. computer tutorials;
4. personalized tutoring;
5. collaborative learning.

VI. Out of Class Assignments

The following out of class assignments may be used in the course:
1. homework;
2. online assignments.

VII. Methods of Evaluation

The following methods of evaluation may be used in the course:
1. a cumulative final exam at the end of each course/unit;
2. two to three chapter tests will be given per course/unit;
3. short mastery quizzes may be given online.

VIII. Textbook

McKeague, C. P., *Intermediate Algebra*. Custom Edition for GCC, 9th Edition.
Mason: Cengage Learning, 2011.
11th Grade Textbook Reading Level. ISBN: 1-111-75205-2.

IX. Student Learning Outcomes

Upon successful completion of the required coursework, the student will be able to:
1. solve equations and inequalities (linear, absolute value, rational, radical, systems);
2. simplify algebraic expressions (exponential, polynomial, rational, radical);
3. graph functions (linear, rational, radical);
4. use mathematical models to solve application problems (linear, rational, systems).