BUTTE COLLEGE
COURSE OUTLINE

I. **CATALOG DESCRIPTION**

MATH 108 - Beginning Algebra **4 Unit(s)**

Prerequisite(s): MATH 217 or Math Level III
Recommended Prep: Reading Level IV

Transfer Status: NT
68 hours Lecture

This course covers fundamental algebraic concepts and operations. The topics include operations with positive and negative real numbers, solving linear, quadratic, and rational equations, applications of linear equations, operations with polynomials, exponential and rational expressions, factoring, graphing linear equations in two variables, and solving systems of linear equations.

II. **OBJECTIVES**

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

A. Simplify algebraic expressions.
B. Solve linear, rational, and radical equations, linear inequalities, and some basic quadratic equations.
C. Add, subtract, multiply, and divide real numbers, polynomials, rational expressions, and radical expressions.
D. Graph linear equations in two variables and linear inequalities in one variable.
E. Factor quadratic and some higher order polynomials.
F. Solve systems of equations in two variables.
G. Solve a variety of applications by translating sentences into equations.
H. Simplify expressions involving integer exponents using properties of exponents.

III. **COURSE CONTENT**

A. **Unit Titles/Suggested Time Schedule**

	Topics	Lecture Hours
1.	The Basics	8.00
2.	Linear Equations and Inequalities in One Variable	10.00
3.	Linear Equations and Inequalities in Two Variables	9.00
4.	Systems of Linear Equations	4.00
5.	Exponents and Polynomials	9.00
6.	Factoring	9.00
7.	Rational Expressions	8.00
8.	Roots and Radicals	7.00
9.	Quadratic Equations	4.00
	Total Hours	68.00

IV. **METHODS OF INSTRUCTION**

A. Lecture
B. Collaborative Group Work
C. Homework: Students are required to complete two hours of outside-of-class homework for each hour of lecture
D. Discussion
E. Board Work

V. **METHODS OF EVALUATION**

A. Exams/Tests
B. Quizzes
C. Class Assignments and Class Response
D. Daily homework assignments, where the student will demonstrate problem-solving skills

VI. **EXAMPLES OF ASSIGNMENTS**

A. Reading Assignments
   1. Read the section in the textbook on Addition and Subtraction of Rational Expressions and be able to define rational expressions, add rational expressions with the same denominator, and find the least common denominator for two rational expressions with unlike denominators.
   2. Read the section in the textbook on The Elimination Method and be able to describe the Elimination Method, solve a system of linear equations using this method, and explain what happens when this method is used to solve a system of equations that consists of two parallel lines.

B. Writing Assignments
   1. Describe in words the role factoring plays in finding a least common denominator when adding rational expressions. Assume you are assisting a fellow classmate who has experienced difficulty with this concept.
   2. Describe in words how you would use the addition property of equality in the Elimination Method of solving a system of two linear equations and show an example to illustrate your description.

C. Out-of-Class Assignments
   1. Review the section on Addition and Subtraction of Rational Expressions and solve the problems assigned by the instructor, showing your solving process.
   2. Review the section on The Elimination Method and solve the problems assigned by the instructor, showing your solving process.

VII. **RECOMMENDED MATERIALS OF INSTRUCTION**

Textbooks:

A. McKeague, C.P. Elementary Algebra. 9th Edition. Brooks/Cole Cengage Learning , 2012.

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