

**IMPERIAL COMMUNITY COLLEGE DISTRICT
IMPERIAL VALLEY COLLEGE**

COURSE OUTLINE

DIVISION: Science, Mathematics and Engineering **DATE:** September 2006

COURSE TITLE: Beginning Algebra **COURSE NO.:** MATH 080

UNITS: 3

LEC HRS. 3 **LAB HRS.** _____ **HRS. TBA**

If cross-referenced, please complete the following

COURSE NO.(s) _____ **COURSE TITLE**

I. COURSE/CATALOG DESCRIPTION:

A one-semester course which covers the material generally included in a first year high school algebra course. Topics covered include the real number system, variable expressions, solving equations, polynomials, factoring rational expressions, graphs and linear equations, systems of linear equations, inequalities and radical expressions.

II. A. PREREQUISITES, if any:

None

B. COREQUISITES, if any:

None

C. RECOMMENDED PREPARATION, if any:

Appropriate placement recommendation or MATH 070 with a grade of "C" or higher.

III. GRADING CRITERIA:

 X Course must be taken on a "letter-grade" basis only.

_____ Course may be taken on a "credit" basis or for a letter grade.

_____ Course must be taken on a "credit" basis only.

IV. MEASURABLE COURSE OBJECTIVES AND MINIMUM STANDARDS FOR GRADE OF "C":

1. The student will demonstrate an understanding and comprehension of basic ideas and elementary concepts of arithmetic.
2. The student will demonstrate a general understanding of the meaning of variable expressions of a symbolic nature.
3. The student will demonstrate skills in solving first degree equations.
4. The student will demonstrate the ability to solve many problems in diverse areas, in a step-by-step manner, when dealing with applications.
5. The student will develop manipulation skills when operating polynomials.
6. The student will demonstrate the various types of factoring and be cognizant of the factoring process.
7. The student will demonstrate an understanding of skills in operations with and simplifications of rational expressions.
8. The student will demonstrate a visual understanding of the Cartesian Coordinate System and linear graphs.
9. The student will demonstrate the ability to solve linear systems of equations both algebraically and graphically.
10. The student will demonstrate the ability to solve linear inequalities algebraically and be able to present the solutions graphically.
11. The student will apply a basic understanding of the rules of radicals, their usage in the simplification and in the solution of radical equations.

V. CORE CONTENT TO BE COVERED IN ALL SECTIONS:

	<u>CORE CONTENT</u>	<u>APPROX. % OF COURSE</u>
1.	Real numbers A. Introduction to integers B. Addition and subtraction of integers C. Multiplication and division of integers D. Rational numbers E. Exponents and the order of operations agreement	5%
2.	Variable expressions A. Evaluating variable expressions B. Simplifying variable expressions C. Translating verbal expressions into variable expressions	10%
3.	Solving equations A. Introduction to equations B. General equations C. Translating sentences into equations	10%
4.	Solving equations: applications A. Introduction to percent B. The percent equation C. Mark-up and discount problems D. Investment problems E. Mixture problems F. Uniform motion problems G. Geometry problems	10%
5.	Polynomials A. Addition and subtraction of polynomials B. Multiplication of monomials C. Multiplication of polynomials D. Division of polynomials E. Negative and zero exponents	10%
6.	Factoring A. Monomial factors B. Factoring general trinomials C. Special factoring D. Solving equations by factoring	10%
7.	Rational Expressions A. Multiplication and division of algebraic fractions B. Expressing fractions in terms of the least common multiple C. Addition and subtraction of algebraic fractions D. Complex fractions E. Equations containing fractions F. Ratio and proportion G. Literal equations H. Application problems	10%
8.	Graphs and linear equations A. The Cartesian system of coordinates B. Graphs of straight lines C. Intercepts and slopes of straight lines D. Equations of straight lines	10%
9.	Systems of linear equations in two variables A. Solving systems of linear equations by graphing B. Solving systems of linear equations by the substitution method C. Solving systems of linear equations by the addition method D. Application problems in two variables	10%
10.	Inequalities A. Sets B. Addition and multiplication properties of inequalities C. General inequalities, graphing linear inequalities	10%
11.	Radical expressions A. Introduction to radical expressions B. Addition and subtraction of radical expressions C. Multiplication and division of radical expressions D. Solving equations containing radical expressions	5%

