IMPERIAL COMMUNITY COLLEGE DISTRICT
IMPERIAL VALLEY COLLEGE

COURSE OUTLINE

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

COURSE TITLE: Intermediate Algebra **COURSE NO.:** MATH 090 **UNITS:** 4

LEC HRS. 4 **LAB HRS.** _____ **HRS. TBA** _____

If cross-referenced, please complete the following

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

I. COURSE/CATALOG DESCRIPTION:

This one semester course is equivalent to a second year algebra course offered in a full year in high school. Topics covered include the real number system, polynomials, rational expressions, exponential and radical forms, linear and quadratic equations, relations, functions and graphs, systems of equations and logarithmic and exponential functions.

II. A. PREREQUISITES, if any:

None

B. COREQUISITES, if any:

None

C. RECOMMENDED PREPARATION, if any:

Appropriate placement recommendation or MATH 080 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":

Student (s) will be able to:

1. Demonstrate an understanding and comprehension of basic ideas and elementary concepts of algebra.

2. Demonstrate skills in solving first degree equations and inequalities.

3. Demonstrate an understanding of polynomials, skills in the operations with polynomials, and the factoring procedure.

4. Demonstrate an understanding of skills in operations with the simplifications of rational expressions.

5. Demonstrate an understanding of skills in operations with and simplifications of exponential expressions.

6. Demonstrate proficiency in solving problems when dealing with linear equations and their applications.

7. Distinguish the various approaches in solving quadratic equations.

8. Demonstrate an understanding of functions and relations.

9. Demonstrate the ability to solve linear systems of equations algebraically and graphically.

10. Demonstrate proficiency to graph, solve, manipulate, and apply exponential and logarithmic functions and equations.

V. CORE CONTENT TO BE COVERED IN ALL SECTIONS:

	CORE CONTENT	APPROX. % OFCOURSE
1.	Introduction to Algebra A. Operations on real numbers B. Variable expressions C. Sets	5%
2.	First-degree equations and inequalities A. Equations in one variable B. Inequalities in one variable C. Absolute value equations and inequalities D. Applications	10%
3.	Polynomials A. Operations on polynomials B. Multiplication of polynomials C. Factoring polynomials D. Special factoring E. Solving equations and inequalities by factoring	5%
4.	Rational Expressions A. Simplifying rational expressions B. Operations on rational expressions C. Complex fractions D. Ratio and proportion E. Rational equations	10%
5.	Exponents and Radicals A. Rules of exponents B. Rational exponents and radical expressions C. Operations on radical expressions D. Complex numbers E. Equations containing radical expressions	10%
6.	Linear Equations in Two Variables A. The rectangular of coordinates system B. Slopes and intercepts of straight lines C. Finding equations of lines D. Applications of linear equations	10%
7.	Quadratic Equations A. Solving quadratic equations by factoring B. Solving quadratic equations by completing the square and by using the quadratic formula C. Equations that are reducible to quadratic forms D. Graphing quadratic equations in two variables E. Applications of quadratic equations	15%
8.	Functions and Relations A. General and specific functions B. Graphing functions C. Domain/Range D. Applications	15%
9.	Systems of Equations in two and three variables A. Solving systems of linear equations by graphing B. Solving systems of linear equations by the elimination and substitution method C. Application problems in two variables	5%
10.	Exponential and logarithmic functions and equations A. Exponential and logarithmic graphs B. Properties of logarithms C. Solving exponential and logarithmic equations D. Applications of exponential and logarithmic functions	15%

VI. METHOD OF EVALUATION TO DETERMINE IF OBJECTIVES HAVE BEEN MET BY STUDENTS: (check all that apply)

Essay	X	**Class Activity**	X	**Written Assignments**	X
Problem Solving Exercise	X	**Final Exam**	X	**Oral Assignments**	X
Skill Demonstration	X	**Objective**	X	**Quizzes**	X
Other	X				

VII. INSTRUCTIONAL METHODOLOGY: (Check all that apply)

Lecture	X	**Discussion**	X	**Demonstration**	X
Audio Visual	X	**Group Activity**	X	**Lab Activity**	X
Computer Assisted Instruction	X	**Individual Assistance**	X	**Simulation/ Case Study**	X

Two (2) hours of independent work done out of class per each hour of lecture or class work, or 3 hours lab, practicum, or the equivalent per unit. _____

Other X May be offered partially or wholly as an on-line course.

VIII. TEXTBOOK(S) AND SUPPLEMENT(S):

Aufmann, R., Barker, V. and Lockwood, J. *Intermediate Algebra with Applications*. 6th Edition. Houghton Mifflin, 2004.

Angel, A., Semmler, R. and Petrie, D. *Intermediate Algebra for College Students.* 6th Edition. Prentice Hall, 2004.

Kinney, P., and Robertson, D. *Interactive Mathematics Intermediate Algebra.* 1st. edition. Plato Learning, 2004.

Martin-Gay, K. E., *Intermediate Algebra*. 4th edition. Prentice Hall, 2005.

Tussy, A., and Gustafson, R. *Intermediate Algebra.* 3rd edition. Brooks/Cole, 2006.