

COCONINO COMMUNITY COLLEGE
COURSE OUTLINE

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Status: Permanent
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December 4, 1991
November 8, 1995
November 23, 1998
Spring 2010
January 7, 2015

A. Identification:

1. Subject Area: Math (MAT)
2. Course Number: 091
3. Course Title: Beginning Algebra
4. Credit Hours: 4
5. Course Description: Basic algebraic concepts including operations with signed numbers, exponents and radicals, linear equations and inequalities, polynomials, and graphing. Prerequisite: MAT 088 or placement. Four lecture. Fall, Spring.

B. Course Goals: To increase a students' mastery of introductory algebra skills including solving equations, inequalities and graphing in one and two dimensions. Students will develop a proficiency and understanding of algebraic expressions and equations, and inequalities to enable them to enter intermediate algebra.

C. Course Outcomes: Upon completion of course, student will be able to:

1. perform the four basic operations, absolute values, and exponents on rational numbers;
2. simplify algebraic expressions;
3. solve linear equations;
4. verify solutions of algebraic equations;
5. use interval notation to describe solutions of inequalities;
6. solve and graph linear inequalities;
7. graph linear equations in two dimensions;
8. solve systems of equations graphically and algebraically;
9. simplify exponential expressions;
10. perform basic operations on polynomial expressions;
11. factor polynomials by removing the greatest common factor;
12. factor polynomials by grouping;
13. factor trinomials by using various methods including special forms;
14. solve quadratic equations by factoring;
15. and solve application problems.

D. Course Assessment will include:

1. course grades determined by the instructor as outlined in the course syllabus;
2. and a comprehensive final exam.

E. Course Content will include:

1. algebraic expressions:
 - a. simplifying;
 - b. evaluating;
2. solving linear equations;
3. solving and graphing linear inequalities on the number line;
4. solving compound inequalities;

5. solving absolute value equations;
6. the Cartesian coordinate system:
 - a. graphing linear equations;
 - b. slope of lines;
 - c. finding equations of lines;
7. solving systems of two linear equations;
8. addition, subtraction, multiplication, and division of polynomials;
9. factoring polynomials:
 - a. greatest common factor;
 - b. grouping;
 - c. trinomials;
 - d. special forms;
10. solving factorable quadratic equations with the Zero-Product Property;
11. and applications.