Crafton Hills College
Course Outline

1. **Discipline:** Mathematics

2. **Department:** Mathematics

3. **Course Title:** Intermediate Algebra

4. **Course I.D.:** MATH 095

5. **Prerequisite(s):**
   MATH 090: Elementary Algebra or
   MATH 090C: Elementary Algebra part C or
   eligibility for MATH 095 as determined through the Crafton Hills College assessment process

   Corequisite(s): None

   Departmental Recommendation(s): None

6. **Semester Units:** 4

7. **Minimum Semester Hours:**

   Lecture: 64 **Lab:** 0 **Clinical:** 0 **Field:** 0 **Independent:** 0

8. **Need for the Course:**
   Success in any transfer-level mathematics course demands a knowledge of intermediate algebra. For this reason, CSU and other four-year institutions require that it be a minimum prerequisite to any mathematics course that is to be transferable. MATH 095 satisfies this need. This course is Associate Degree applicable.

9. **Goals for the Course:**
   MATH 095 provides the necessary background enabling students to be successful in subsequent transferable mathematics courses. It also addresses the quantitative analysis portion of the General Education Philosophy. Through this goal, part of the college's mission is addressed.

10. **Catalog Description:**
    Study of rational exponents and radicals; quadratic, absolute value, rational and radical equations; complex numbers; absolute value inequalities; operations with functions; introduction to exponential and logarithmic functions; graphs of the basic functions and their translations.

11. **Schedule Description:**
    Study of rational exponents and radicals; quadratic, absolute value, rational and radical equations; complex numbers; absolute value inequalities;
    operations with functions; introduction to exponential and logarithmic functions; graphs of the basic functions and their translations.

12. **Entrance Skills:**
    A. Requisite Skills:
    Upon entering this course, students must be able to:
    1. Denote subsets of the real numbers
    2. Use the properties of real numbers with algebraic expressions
    3. Apply the order of operations to simplify, manipulate and evaluate algebraic expressions
    4. Define, evaluate, and simplify polynomials
    5. Factor the following types of expressions with whole number exponents: a. Common factors (including factoring out -1, b. Grouping (two-by-two), c. Simple trinomial, d.

General Trinomial, e. Difference of squares, f. Sum and difference of cubes, g. Multiple step factoring
6. Solve linear and literal equations
7. Solve systems of linear equations in two variables including applications
8. Use linear equations of two variables to: a. Graph, b. Find slope, c. Locate intercepts, d. Find the equation of a line
9. Solve and graph the solution to introductory level linear inequalities in one and two variables
10. Use the properties of integer exponents to simplify algebraic expressions
11. Simplify, multiply, and divide rational expressions

B. Recommended Skills:

None

13. Course Objectives:

Upon satisfactory completion of the course, students will be able to:

1. See attached file.

14. Representative Texts and Instructional Materials:

Gustafson, R. & Frisk, P. (2008). *Beginning and Intermediate Algebra an Integrated Approach* (5/e). Pacific Grove, CA: Thompson Learning Brooks/Cole.
Dugopolski, M. (2002). *Elementary& Intermediate Algebra w/SMART CD* New York NY: McGraw Hill.
Lial, M., Hornsby, J. & McGinnis, T. (2004). *Beginning and Intermediate Algebra with Early Functions and Graphing* (7/e). San Francisco, CA: Addison Wesley.
Wright, F. (2004). *Intermediate Algebra* (5/e). Charleston, SC: Hawkes Publishing.
Video tapes and computer tutorial programs that cover the topics of this course are available in the Math Center, Learning Center and at the Reserve Desk in the library.

15. Course Content:

See attached file.

16. Methods of Instruction:

A. Lecture
B. Demonstration
C. Discussion Seminar
D. Computer-aided Instruction
E. Other: This course will combine lecture and demonstration, class discussion, working problems and reading. A computer tutorial lab component as well as other Math Center activities may be incorporated into the class. Students will be required to show their work. They may also be asked to participate in class demonstrations, quizzes, tests, and other classroom activities.

17. Assignments and Methods of Evaluation:

Students will be required to do homework. At least three examinations must be given, one of which must be a comprehensive final exam. Not all testing may be assigned as take home examinations. Assignments of two hours homework per hour of lecture will be given. Students will be directed to show their work and write using proper mathematical notation. Homework will consist of problems chosen from the textbook, supplemental materials, or computer software. Students may also be asked to complete computer assignments, software enhanced assignments, quizzes or projects, participate in in-class demonstrations, or other classroom activities.

Comprehensive final exam 25%-40%

Tests and quizzes 30%-70%
Homework 0%-15%
Projects and other activities 0%-15%

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