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MA102<sup>10</sup> Introductory Algebra  
Syllabus

**Name of Course**

MA102 Introductory Algebra

**Instructor**

Dr. David Lani (phone: 388-3361)

**Textbook**

Beginning Algebra / Gustafson, R. & Frisk, P. — 4th edition

**Supplies**

a *scientific* calculator (with fraction capability) is required  
11" x 8.5" lined paper; please, no spiral notebooks  
#2 (or darker) pencils; no pens

**Course Objectives**

- (1) To introduce students to the fundamentals of algebra;
- (2) To prepare students for entry into MA103 College Algebra;
- (3) To emphasize: manipulating algebraic expressions (polynomials, rational expressions, radical expressions); solving equations and inequalities; graphing linear equations and inequalities; solving systems of equations and inequalities in two variables.

**Course Requirements**

**Attendance**

Attendance at each class is mandatory. A score of 100, 75, 50, 25, or 0 is recorded for each class meeting. The best 18 of 20 scores count towards the final course grade.

**Homework**

Assignments are due at the *beginning* of class; otherwise, they are considered late. Work that is no more than one day late is accepted but assessed a 25% deduction. Work that is more than one day late is not accepted; a score of 0 is recorded. The best 4 of 5 scores count towards the final course grade.

Problem solving is a major focus of mathematics. Therefore, all work and/or explanations leading to solutions must be included, unless otherwise indicated. In general, answers alone are not sufficient to receive full credit.

**Tests**

All tests are closed-book, with no notes allowed. Some have "no calculator" parts; some have "calculator allowed" parts. No borrowing of calculators is allowed on tests for which a calculator is allowed/needed. The time limit for the final examination is two hours; each of the previous three tests has a time limit of one hour. Consult the course schedule for test dates and inform the instructor of any conflict as soon as possible. Alternate tests may be administered for scheduled tests that are missed.

## **Grading**

Attendance — 15% of final grade (best 18 of 20 scores)

Homework — 15% of final grade (best 4 of 5 scores)

Three Tests — together, 45% of final grade

Final Exam — 25% of final grade

## **Topics Covered**

Real Numbers (chapter 1):

Sets of numbers and their graphs; fractions; algebraic expressions; exponents; order of operations; absolute values; arithmetic of real numbers; the basic properties.

Equations and Inequalities (chapter 2):

Addition, subtraction, multiplication and division properties of equality; simplifying expressions to solve equations; applications of equations; solving inequalities.

Polynomials (chapter 3):

Natural-number exponents; zero and negative integral exponents; scientific notation; adding, subtracting, multiplying, and dividing polynomials.

Factoring Polynomials (chapter 4):

Greatest common factor; grouping; difference of squares; general trinomials; summary of factoring techniques; solving equations by factoring; applications.

Rational Expressions (chapter 5):

Basic properties; multiplying, dividing, adding, and subtracting rational expressions; solving equations that contain fractions; applications.

Graphing Linear Equations and Inequalities (chapter 6):

Rectangular coordinate system; graphing lines; slopes of lines; writing equations of lines; graphing inequalities.

Solving Systems of Linear Equations (chapter 7):

Solving systems of equations using the substitution method and the addition method; applications.

Roots and Radical Expressions (chapter 8):

Radicals; simplifying radical expressions; adding, subtracting, multiplying, and dividing radical expressions.

## **Student Exercises**

Completion of all tests and homework assignments as described in the course requirements.