Midland College
Syllabus
2008-09
MATH 0391
Intermediate Algebra
3 Semester Credit Hours
(3 Lecture/0 Lab)
Co-requisite Math 0190

Course Description: Math 0391 is designed to bridge the gap between the introductory and college-level algebra courses. This intermediate algebra course will permit students to become more proficient in the areas of polynomial factoring, rational expressions, rational exponents, radicals, complex numbers, quadratics, and composite and inverse functions. Co-requisite: Math 0190 (Must pass to progress in sequence). Prerequisite: Math 0390 (this also includes a pass in corequisite course Math 0190 in the same semester) or a satisfactory score on a math placement test.


Course Goals/Objectives: After successfully completing this course the student should be able to:
1. Use appropriate algebra terminology
2. Work problems related to:
   relations and functions
   inequalities and equations
   factoring polynomials
   rational expressions
   quadratics
   complex numbers
   graph linear and nonlinear equations and inequalities
   create and solve mathematical models

Student Contributions and Class Policies: Students are expected to arrive punctually and participate in class. Students should behave in an appropriate manner so as not to interfere with learning. What is inappropriate will be determined by the instructor. For example, please turn off all cell phones and pagers.

Midland College does not tolerate scholastic dishonesty or academic misconduct in any form. Please read the MC Student Handbook on this subject.

Intellectual Competencies:
1. Reading - Understanding the material incorporated in the text used in this course will require the student to analyze and interpret various mathematical concepts.
2. Listening – The primary teaching methods used in this course are discussion and lecture. Understanding the oral presentation of material will require the student to analyze and interpret various mathematical concepts.
3. Critical Thinking – Critical thinking as exemplified by problem solving, is inherent in the study of any scientific discipline. Mathematical problems will be considered, discussed, and analyzed in this course.
ADA Statement: Any student who, because of a disabling condition, may require some special arrangements in order to meet course requirements should contact the instructor as soon as possible. These conditions may include documented physical or educational disabilities. Please be aware that services or accommodations are not automatic. Each student must request then and secure the proper authorizations.

Evaluation of Students: Quizzes will count at most 10%, exams from 60% to 80%, the final from 10% to 30%, and projects, or homework 0% - 20%. The normal grading scale is 90-100 for an A, 80-89 for a B, 70-79 for a C, 60-69 for a D, and 0-59 for an F

Course Schedule:
5.1 Exponents and Scientific Notation
5.2 More Work with Exponents and Scientific Notation
5.3 Polynomials and Polynomial Functions
5.4 Multiplying of Polynomials
5.5 The Greatest Common Factor and Factoring by Grouping
5.6 Factoring Trinomials
5.7 Factoring by Special Products and Factoring Strategies
5.8 Solving Equations by Factoring and Problem Solving
6.1 Rational Functions and Multiplying and Dividing Rational Expressions
6.2 Adding and Subtracting Rational Expressions
6.3 Simplifying Complex Fractions
6.4 Dividing Polynomials - Long Division and Synthetic Division
6.5 Solving Equations Containing Radical Expressions
6.6 Rational Equations and Problem Solving
6.7 Variation and Problem Solving
7.1 Radicals and Radical Functions
7.2 Rational Exponents
7.3 Simplifying Radical Expressions
7.4 Adding, Subtracting, and Multiplying Radical Expressions
7.5 Rationalizing Denominators and Numerators of Radical Expressions
7.6 Radical Equations and Problem Solving
7.7 Complex Numbers
8.1 Solving Quadratic Equations by Completing the Square
8.2 Solving Quadratic Equations by the Quadratic Formula
8.3 Solving Equations by Using Quadratic Methods
8.4 Nonlinear Inequalities in One Variable
8.5 Quadratic Functions and Their Graphs
8.6 Further Graphing of Quadratic Functions
9.1 The Algebra of Functions; Composite Functions
9.2 Inverse Functions
4.1 Solving Systems of Linear Equations in Two Variables [a review of process]
10.3 Solving Nonlinear Systems of Equations
10.4 Nonlinear inequalities and Systems of Inequalities

Optional Sections
4.4 Solving Systems of Equations by Matrices
4.5 Solving Systems of Equations by Determinants
**Instructor Information:**

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<td>Office:</td>
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<td>Hours:</td>
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<tr>
<td>Division Dean:</td>
<td>Dr. Margaret Wade, 125 SF, 685-4615</td>
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<td>Division Secretary:</td>
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