Northern Michigan University  
Mathematics & Computer Science Department  
Intermediate Algebra (4 credits)  
MA100-1 (50034) MTWR 9:50am – 12:00pm NSF 1205

Instructor: Dr. Carol Bell  
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Office Phone: (906) 227-1603  
email: cbell@nmu.edu  
Office Hours: MTW 12:00 – 1:00, or by appointment

Prerequisite:  
MA090 (passed with a C- or better) or satisfactory score on the Mathematics Placement Exam.

General Introduction and Goals:  
The study of polynomials, graphing, algebraic fractions, radicals, lines and linear equations and inequalities, quadratic and exponential equations and systems of equations. Applications are emphasized.

MA100 counts as an elective for a baccalaureate degree but does not fulfill the liberal studies requirements. Although MA100 is required for some majors, students most often take it to prepare themselves for additional mathematics courses.

Text and Other Course Information:  
- Two notebooks; one for notes and one for homework.  
- A scientific calculator may be useful to aid in working some of the problems.  
- Additional resources, such as videos with examples worked on a step-by-step basis, are available in EduCat.

Learning Outcomes: (a partial list)  
After successful completion of MA100 students will be able to:  
(1) Solve systems of equations both graphically and algebraically.  
(2) Employ systems of equations in the solution of application problems.  
(3) Utilize factoring and the quadratic formula to solve polynomial equations.  
(4) Calculate the distance between two points in the coordinate plane and determine the coordinates of the midpoint of the line segment joining them.  
Learning outcomes will be assessed using quizzes, tests, and the final exam.

Content Outline:  
This course will examine the following areas:  
1. Linear Equations in two variables and their graphs  
   o Slope of a line  
   o Writing equations of lines  
   o Solving systems of equations: algebraic and geometric methods
2. Polynomial Arithmetic
   - Adding, subtracting, multiplying polynomials
   - Factoring
3. Quadratic Equations
   - Graphs of quadratics
   - Solving quadratic equations - graphing, factoring
   - Quadratic formula
   - Equations quadratic in form
4. Rational Expressions and Fractional Equations
   - The arithmetic of rational expressions
   - Solving fractional equations
5. Exponents
   - Integral and rational exponents
   - Scientific notation
   - Radicals
6. Functions
   - Functional notation
   - Graphing functions
   - Variation
7. Geometric Applications
   - Distance formula
   - Perimeter, area and volume of geometric figures

Assessment Format: Specific information on each assessment is provided below.

- **Homework Quizzes (30%)**: Homework quizzes from the homework assignments will be given daily. This is also how I will take attendance. The lowest quiz from the first three weeks of class and the last three weeks of class will be dropped.
- **Tests (50%)**: Each test will consist of questions from the material discussed in class. A university-approved excuse is generally a prerequisite for rescheduling any test.
- **Final Exam (20%)**: The final exam is cumulative and will be given on our last class day, which is Thursday, August 8.

Grading Scale (%): Your course grade will be weighted according to the percentages outlined under Assessment Format. Corresponding grades based on a percentage are listed below.

<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>100 – 95.0: A</td>
<td>86.4 – 82.5: B</td>
</tr>
<tr>
<td>94.9 – 89.5: A-</td>
<td>82.4 – 79.5: B-</td>
</tr>
<tr>
<td>89.4 – 86.5: B+</td>
<td>79.4 – 76.5: C+</td>
</tr>
<tr>
<td></td>
<td>59.4 – 0: F</td>
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</tbody>
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Anyone having civil rights inquiries may contact the Equal Opportunity Office, 502 Cohodas Hall, telephone number 906-227-2420.

**ADA Statement:**
If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Disability Services Office by: coming into the office at 2001 C. B. Hedgcock; calling 227-1700; or e-mailing disserv@nmu.edu. Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state, and University guidelines.