Northern Michigan University  
Mathematics & Computer Science Department  
Intermediate Algebra (4 credits)  
MA100-01 (80476) MTWRF 9:00am – 9:50pm WS 3803

Instructor: Dr. Carol Bell  
Office: NSF 1113  
Office Phone: (906) 227-1603  
email: cbell@nmu.edu  
Office Hours: MW 10:00 – 11:00, R 10:00-12:00, 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:  
- A three-ring notebook for the class portfolio.
- Loose-leaf paper for notes and homework to include in the portfolio.
- A scientific calculator may be useful to aid in working some of the problems.
- Additional resources, such as videos with solutions to examples worked on a step-by-step basis, are available in EduCat.

DEVELOPMENTAL MATHEMATICS LAB SESSION/TUTORING POLICY:  
Students are required to attend the lab session and/or meet with the Teaching Assistant (TA) during their office hours at any time in which the student’s grade on a test is below 70%. Students must continue to attend lab sessions and/or meet with the TA until they achieve at least 70% on a subsequent test. It is the student’s responsibility to learn if he or she is required to continue attending after the next test is taken. Students should ask the instructor if they are uncertain. Do not make any assumptions about your attendance status. All students, even if they score at least 70% on a test, are welcome to attend the lab sessions and are encouraged to meet with the TA during their scheduled office hours.

Students who are required to attend the lab session and/or meet with the TA will be asked to initial a sign-in sheet to indicate their presence. A student who misses a session or arrives more than 10 minutes late will be marked absent. No more than four (4) unexcused absences from the required lab session or meeting with the TA will be permitted. Students who exceed the number of unexcused absences will be required to meet with the instructor to discuss their commitment to the course. The instructor reserves the right to reduce a student’s grade due to an excessive number of absences or to give the student a failing grade in the course. Students may also choose to withdraw from the course prior to the University’s class withdrawal deadline.
Learning Outcomes:
After successful completion of MA100 students will be able to:

1) Write and graph equations of lines.
2) Solve systems of equations both graphically and algebraically.
3) Set up and solve application problems using a single-variable equation or a system of equations.
4) Solve one-variable equations (e.g., linear, quadratic, absolute value, radical, rational, exponential) and literal equations.
5) Solve and graph linear and absolute value inequalities.
6) Solve problems using mathematical formulas (e.g., quadratic formula, distance formula, midpoint formula, and area and volume formulas).
7) Simplify polynomial, rational, and exponential expressions.
8) Express functions in tabular, graphical, and symbolic form.
Learning outcomes will be assessed using assignments, quizzes, and exams.

Content Outline:
This course will examine the following areas:

1. Linear Equations in two variables and their graphs
   - Slope of a line
   - Writing equations of lines
   - Solving systems of equations: algebraic and geometric methods
   - Solving systems of equations in three variables (optional)
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.

- **Portfolio (20%)**: A portfolio (three-ring notebook) will be collected prior to each hour exam and the final exam. The portfolio should include a section on (1) class notes, (2) completed homework from the text, (3) worked problems from the videos provided in EduCat. A grade will be given for the work completed for each submission.
Homework Quizzes (10%): Beginning the second week of class, homework quizzes from the homework assignments will be given daily. This is also how I will take attendance. No make-up quizzes are given; they must be taken during class. The lowest quiz from the first half of the semester and the last half of the semester will be dropped (fall break is the cut-off date).

Hour Exams (40%): Each hour exam will consist of questions from the material discussed in class. A university-approved excuse is generally a prerequisite for rescheduling any exam. Make-up exams are not given. If you miss an exam, half of your raw score on the final exam will replace the missed exam. Additional exams missed will receive a score of 0.

Final Exam (30%): The final exam is cumulative and is scheduled for Thursday, December 12, 8:00-9:50am.

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.

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<tr>
<th>Grade</th>
<th>Percentage Range</th>
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<tbody>
<tr>
<td>A</td>
<td>100 – 95.0</td>
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<tr>
<td>A-</td>
<td>94.9 – 89.5</td>
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<tr>
<td>B+</td>
<td>89.4 – 86.5</td>
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<tr>
<td>B</td>
<td>86.4 – 82.5</td>
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<tr>
<td>B-</td>
<td>82.4 – 79.5</td>
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<tr>
<td>C+</td>
<td>79.4 – 76.5</td>
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<tr>
<td>C</td>
<td>76.4 – 72.5</td>
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<tr>
<td>C-</td>
<td>72.4 – 69.5</td>
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<td>D+</td>
<td>69.4 – 66.5</td>
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<td>D</td>
<td>66.4 – 62.5</td>
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<td>D-</td>
<td>62.4 – 59.5</td>
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<tr>
<td>F</td>
<td>59.4 – 0</td>
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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.