MA 103 – Finite Mathematics  
Fall 2014 Course Syllabus

Days:  M, W, Th, F

Class ID:  MA 103  Section 01:  call # 80461  Time 11:00 – 11:50 am

Room/Testing Room:  WS 2905  
Credits:  4

Instructor:  JoAnn Buhl  
Office:  Jamrich  2232  
e-mail:  jbuhl@nmu.edu

Office Hours:  10-11 am,  M, W, Th, F.  Other times are available by appointment.  It is usually a good idea to drop me an e-mail or set up the appointment before or after class, just to confirm that I will be available.

Prerequisites:  MA 100 (Passed with C- or better) or satisfactory score on the math placement exam.

Course Access: All course material and course instructions can be accessed through the EduCat website at NMU.  https://educat.nmu.edu/


Course Description:  This course is designed primarily for students in business, economics, management, and the social sciences and life sciences.  MA 103 builds on the algebraic skills of MA 100 while emphasizing applications, modeling, and decision-making from business, social and natural sciences, medicine, and other areas.  It is a prerequisite for MA 171 and can be used as a Liberal Studies elective under Division III Natural Sciences/Mathematics.

Course Content:  This course is broken down into four distinct areas:

- algebraic equations and functions,
- formulas and the mathematics of finance,
- systems of equations and linear programming,
- probability and statistics

Attendance:  You are expected to attend class each day and are responsible for the material covered on that day.  Mathematics is like a sport.  In order to improve, you must practice!

Homework:  Will be assigned on a daily basis and collected each Friday.  The best way to learn mathematics is by doing it yourself, and that requires steady, consistent effort.  For each hour of class time, you should expect an equal amount of time spent on the homework problems.  Your hard work will pay off on the quizzes and tests.  For the most part, only odd problems will be assigned for homework so that you may check your answers.  When I grade the homework, I will NOT be looking at the answers, but rather at your WORK to GET the answers.  An unspoken but valuable side benefit
of a mathematics class is that it forces you to learn to solve a problem and be able to explain your work in a logical, reproducible, step-by-step manner. This is what I will be grading! I will also NOT grade every problem, but rather pick several key problems in each homework set to evaluate.

Quizzes: There will be a quiz pretty much every Friday. Quizzes are valuable to give YOU some feedback as to the types of questions that will be asked on the tests so that you can evaluate whether you need to spend more time on a particular topic BEFORE the test rolls around!

Tests and the Final: There will be four tests, one for each category of mathematics that we cover. The Final will be considered the fourth test.

Final Date: MA 103 Section 01 Wed, Dec 10, 10:00 -11:50 am WS 2905

Calculator: This course will use a graphing calculator. I will be using a TI-84 plus graphing calculator for my examples in class, so most students will want to purchase a TI-84 plus/silver graphing calculator. However, the Casio FX-9750 GII – WE graphing calculator is a good one too, and does everything the TI one does for about $50 less. Just be aware that if you get the Casio calculator, you may have to figure things out by yourself (but Google can usually help!) The Ti-89 graphing calculator is overkill unless you are planning to go on into upper level calculus classes, but it works too (again, you will have to figure it out by yourself!). There really isn’t a good enough cell phone calculator app yet, so NO cell phone calculators. You are EXPECTED to use the calculator on all homework, quizzes, and tests.

Computers: I find that computers can be a distraction in class, and will NOT BE ALLOWED DURING CLASS TIME unless specifically requested. Same goes for cell phones! Besides, taking notes has been proven to help you remember the material – something to do with hand-to-brain nerve connections - So take notes!!

Course Access and correspondence: You will want to check your computers OUTSIDE OF CLASS 😊, since much of the course material and course instructions can be accessed through the NMU EduCat website: https://educat.nmu.edu/. Also, any e-mail correspondence for the course will be via your NMU e-mail, so be sure to check it regularly.

Grades: Your grade will be based on the percentage you achieve of the following scores:

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
<th>Grading Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1</td>
<td>100 pts</td>
<td>90% and up A’s</td>
</tr>
<tr>
<td>Test 2</td>
<td>100 pts</td>
<td>80% - 89% B’s</td>
</tr>
<tr>
<td>Test 3</td>
<td>100 pts</td>
<td>70% - 79% C’s</td>
</tr>
<tr>
<td>Final</td>
<td>100 pts</td>
<td>60% - 69% D’s</td>
</tr>
<tr>
<td>Quizzes (10 pts each)</td>
<td>100 pts</td>
<td>Below 60 % F</td>
</tr>
<tr>
<td>Homework (6 pts each)</td>
<td>60 pts</td>
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<tr>
<td>TOTAL POINTS:</td>
<td>560 pts</td>
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Tests may only be made up with a documented, validated excuse. If you know AHEAD of time that you have a test or quiz conflict, let me know and I will be happy to make alternate arrangements.
Extra Help: Be sure to take advantage of the following FREE Tutoring Centers!

Math Tutor Lab.  
West Science 3810.  
M – TH 9 - 4  and F 9 – 3

All Campus Tutoring.  
Learning Resource Center 111H. 
S – W  2 – 10:00 p.m.

Foundation of Natural Sciences/Mathematics Requirement: This course satisfies the Foundation of Natural Sciences/Mathematics requirement. Students who complete this course should be able to demonstrate a basic understanding of mathematical logic; use mathematics to solve scientific or mathematical problems in college classes; express relationships in the symbolic language of mathematics; and appreciate the role of mathematics in analyzing natural phenomena.

ADA Statement: If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Dean of Students Office at 2001 C. B. Hedgcock Building (227-1700). 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.
Student Learning Outcomes

Upon successful completion of this course the student will be able to:

- Understand and apply the basic rules of algebra to solve algebraic equations.
- Understand and apply problem-solving methods to analyze a problem and obtain an answer.
- Understand and apply the concepts and properties of a function to model real-world situations, and use both algebraic and graphical methods to solve scenarios involving these functions. In particular, the student will understand how to use linear, polynomial, exponential, and logarithmic functions.
- Understand the financial mathematics behind interest, amortization, annuities, and sinking funds.
- Solve systems of equations using matrices.
- Understand the mathematics used to work with matrices.
- Model and solve linear programming applications.
- Understand basic probability and statistics concepts.

Student achievement of these learning outcomes will be measured through:

Performance on homework, quizzes, and exams.