MA 104 – College Algebra with Applications in the Sciences and Technologies
Winter 2015 Course Syllabus

Days: M, W, Th, F

Class ID: MA 104 Section 03: CRN # 10893 Time 11am-11:50am

Rooms: Jamrich 3102 on M, W, F
        Jamrich 3313 on Th

Credits: 4

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

Office Hours: 10-11am, 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 or satisfactory score on the math placement exam.

ISBN # 9780538733540

Course Description: This course includes a review of basic algebra, solving equations and inequalities, functions and graphing, linear, quadratic, polynomial, and rational functions, exponential and logarithmic functions. Right triangle trigonometry will be briefly covered, along with the Laws of Sines and Cosines. The semester will end with solving systems of equations.

General Introduction and Goals for the Course: This course is designed for students who need college algebra but do not intend to take calculus. The applications of algebra are drawn primarily from the natural sciences and technologies. This course will prepare students to study Trigonometry, (MA 106), and Calculus with Applications, (MA 271). And although MA 103 is the recommended preparatory course for the study of statistics, MA 104 is also an alternative prerequisite for Statistics. To move to the precalculus track, (MA 115) from MA 104, a student must achieve at least a B- in this course.

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 need to show up and practice!
**Homework:** Will be assigned on a daily basis, but not collected. Your knowledge of the homework will be evaluated on the weekly quizzes and the tests. For the most part, only odd problems will be assigned for homework so that you may check your answers. The homework problems are a guide for you to increase your skill in the material. You are done with the homework when you know the material. The homework problems simply give you practice to see if you have learned the material (and also gives different views of the same topic). There will be time at the beginning of each class period to ask any questions you may have. 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.

**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 104 Section 03, Thursday, April 30th, 10am -12noon  Room: TBD?

**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 may 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 regularly OUTSIDE OF CLASS 😊, since 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:

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<thead>
<tr>
<th>Test</th>
<th>Points</th>
<th>Grading Scale</th>
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</thead>
<tbody>
<tr>
<td>Test 1</td>
<td>100</td>
<td>90% and up</td>
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<tr>
<td>Test 2</td>
<td>100</td>
<td>80% - 89%</td>
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<tr>
<td>Test 3</td>
<td>100</td>
<td>70% - 79%</td>
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<tr>
<td>Final</td>
<td>100</td>
<td>60% - 69%</td>
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<tr>
<td>Quizzes</td>
<td>100</td>
<td>Below 60 %</td>
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<tr>
<td>TOTAL POINTS:</td>
<td>500 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!

- 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 need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Disability Service Office 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 rules of linear, quadratic, polynomial, exponential, and logarithmic relations to solve equations.

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.

Apply trigonometry to solve scenarios involving triangle relationships.

Solve problems involving systems of equations.

_Student achievement of these learning outcomes will be measured through:_

Performance on weekly quizzes and exams.