

**MA 104 – College Algebra with Applications in the Sciences and Technologies  
Winter 2013 Course Syllabus**

**Days:** Varies

**Time:** Varies

**Testing Room:** WS 3802

**Class ID:** MA 104 – 55: Web

**Call #:** 12092

**Credits:** 4

**Instructor:** JoAnn Buhl

**Office:** NSF 1125 or WS 3802

**e-mail:** [jbuhl@nmu.edu](mailto:jbuhl@nmu.edu)

**Office Hours:** 8-9 a.m. and 10-11 a.m. M W TH F. Other times available by appointment.

**Prerequisites:** MA 100 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/>

**Text:** *Algebra and Trigonometry, 8<sup>th</sup> Edition*, by Ron Larson. We will be using the online e-book and homework package through the company WebAssign.

**Course Description:** Select portions of Chapters 1-9. This 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.

**Attendance:** You are expected to be a self-motivated learner, and are responsible for the material assigned each day. It is VERY important in an on-line course that you keep up with the material.

**Homework:** Will be assigned on a daily basis. The best way to learn mathematics is by doing it yourself, and that requires steady, consistent effort. **For each hour of video lecture or e-book reading, you should expect an equal amount of time spent on the homework problems.**

**Tests and the Final:** There will be four tests. The Final will be considered the fourth test, and will cover material only since the last test. Tests will be given in a **proctored testing room, West Science 3802. Testing times are Monday, Wednesday, Thursday, and Friday, from 8 a.m. to 12 noon of the testing weeks. The testing room closes at**

noon. You must bring a picture ID, your laptop, a calculator, a pencil, and a single “cheat sheet” of any formulas, directions, or examples you think may be helpful. Arrive before 11 a.m. to have plenty of time to test. Cell phones are NOT allowed.

**Calculator:** This course will use a graphing calculator (most students purchase a TI-84 plus/silver). The Instructor will be using a Texas Instruments graphing calculator, but any good graphing calculator with trigonometric functions will work (Casio also makes a nice one). **You are EXPECTED to use the calculator on all homework and tests.**

**Computers:** Obviously, you will need a computer to access the on-line e-book, videos, and homework. In particular, you will need a laptop when taking the proctored tests in the testing room. The tests themselves are on-line, and you will need to bring your own computer to access them.

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

			<u>Grading Scale:</u>	
Test 1	:	100 pts	90% and up	A’s
Test 2	:	100 pts	80% - 89%	B’s
Test 3	:	100 pts	70% - 79%	C’s
Final	:	100 pts	60% - 69%	D’s
Homework	:	<u>100 pts</u>	Below 60 %	F
TOTAL POINTS:		500 pts		

**Tests may only be made up with a documented, validated excuse.**

**Extra Help:** If you happen to live on or close to NMU’s campus, 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.

[www.calcchat.com/](http://www.calcchat.com/) is an online source connected with our book that works through all the ODD problems in our textbook (the homework consists mainly of EVEN problems, but usually problems occur in pairs and you may get some valuable insight viewing the solution to a similar problem).

**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 homework and exams.