

COURSE SYLLABUS
MA 112, PRE-CALCULUS ALGEBRA



*This information is to be completed by the instructor for the course.

I. *INSTRUCTOR INFORMATION

- A. Name:
- B. Office:
- C. Office Phone Number:
- D. E-mail Address:
- E. Office Hours:

II. COURSE INFORMATION

- A. Course name, number, and credit hours:
Pre-calculus Algebra, MA 112, 3 credit hours.
- B. *Semester, Section number:
- C. *Class meeting time (days, time, location):
- D. Prerequisites: Minimum mathematics ACT score of 22 and credit in high school Algebra I, Algebra II, and Geometry; or grade of C or better in Intermediate Algebra.
- E. Course Description: This course emphasizes the algebra of functions – including polynomial, rational, exponential, and logarithmic functions. The course also covers systems of equations and inequalities, quadratic inequalities, and the binomial theorem. Additional topics may include matrices, Cramer's rule, and mathematical induction.
- F. Course Objectives: The student shall demonstrate knowledge of
 1. The basic concepts of arithmetic.
 2. The basic concepts of algebra.
 3. Elementary functions.
 4. The sequential nature of mathematics and the interrelated nature of the various branches of mathematics.
 5. Problem-solving strategies, which shall include reading and interpreting the problem, devising a plan to solve the problem, carrying out that plan, and reflecting on the reasonableness of the answer. Working problems backwards.
 6. Estimation, prediction, and an ability to check answers.
 7. Spatial relationships.

8. Standard mathematics vocabulary and symbols, and demonstrate the ability to use the language and symbols of mathematics accurately in communication.
9. Use fundamental mathematical operations, algorithms, and measurements.
10. Present and interpret data in graphical form.
11. Select or create appropriate mathematical models to solve problems in mathematics and in other disciplines and integrate problem solving strategies learned in mathematics into the solution of problems encountered in daily living.

G. Course Content:

Algebra review including factoring, rational expressions, rational exponents, and radicals.

1. Linear and quadratic equations and inequalities, and their applications.
2. Relations and their graphs including linear relations, the parabola, the circle, and inequalities.
3. Functions, algebra of functions, graphing basic functions and their variations, inverse functions, exponential and logarithmic functions.
4. Polynomial and rational functions including graphing, polynomial division, rational zeros and real zeros of polynomial functions.
5. Systems of equations and inequalities including solution of two and three variable linear systems of equations, solution of linear systems by matrices, nonlinear systems of equations, and systems of inequalities.

III. **TEXTBOOK AND SOFTWARE**

A. Textbook: *Algebra & Trigonometry* by Blitzer, 5th ed.

NOTE: The homework will be done on the computer, using the MyMathLab (MML) software. The MML software is REQUIRED for this class. The text is included as an electronic version in the MyMathLab subscription. YOU DO NOT NEED TO PURCHASE A BOOK SEPARATELY unless you want the print version.

B. Software: MyMathLab (Standalone access code)

C. Calculator Policy: You will need a simple scientific calculator for this course. Any calculator capable of graphing will not be allowed. You are not allowed to use your cell phone for a calculator.

IV. **ACCOMMODATIONS**

In accordance with the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973, the University offers reasonable accommodations to students with eligible documented learning, physical and/or psychological disabilities. Under Title II of the Americans with Disabilities Act (ADA) of 1990, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Amendment Act of 2008, a disability is defined as a physical or mental impairment that substantially limits one or

more major life activities as compared to an average person in the population. **It is the responsibility of the student to contact Disability Support Services to initiate the process to develop an accommodation plan.** This accommodation plan will not be applied retroactively. Appropriate, reasonable accommodations will be made to allow each student to meet course requirements, but no fundamental or substantial alteration of academic standards will be made. Students needing assistance should contact Disability Support Services (256-765-4214).

V. ACADEMIC HONESTY POLICY

Students are expected to be honorable and observe standards of conduct appropriate to a community of scholars. Additionally, students are expected to behave in an ethical manner. Individuals who disregard the core values of truth and honesty bring disrespect to themselves and the University. A university community that allows academic dishonesty will suffer harm to the reputation of students, faculty, and graduates.

Incidents of possible student academic dishonesty will be addressed in accordance with the guidelines found at the following link:

<http://www.una.edu/student-conduct/policies-and-procedures/academic-honesty.html>

VI. ATTENDANCE POLICY

Regular and punctual attendance at all classes is expected of all students. Whenever a student's cumulative absences for any reason—excused or unexcused—exceed the equivalent of three weeks of scheduled classes, no credit may be earned for the course. The student will either withdraw from the course or receive an F for the course grade. Any exceptions to this policy will be in accordance with university policy.

VII. *FINAL EXAM

Include date, time, and location.

The final exam is a COMPREHENSIVE, multiple-choice departmental exam.

VIII. GRADING SCALE

Grades will be assigned according to the following scale:

A	90% - 100%
B	80% - 89%
C	70% - 79%
D	60% - 69%
F	Below 60%

IX. *GRADING PLAN

Include information on the number and type of evaluation methods (exams, quizzes, labs, homework, papers, etc.) with point or percentage values for each.

X. *GENERAL COMMENTS BY INSTRUCTOR