Syllabus
MAT 143 MTWF 1:00 – 1:50
CAB 306
Pre-Calculus Algebra (Fall '08)

TEXT: ***PRECALCULUS (3rd Ed), Blitzer***
TECHNOLOGY: Graphing calculator (TI-83/84 are recommended.)

MAT 143. PRECALCULUS ALGEBRA. Fundamental concepts of college algebra and a preparation for calculus. Topics will include factoring, integer and rational exponents, simplifying algebraic expressions, solving equations and inequalities, the function notation, polynomial and rational functions, exponential and logarithmic functions, graphs of functions and applications. This course is designed for students majoring in science, engineering, and mathematics or intending to take MAT 241-242. While topics are the same as for MAT 140, there is more theoretical coverage and emphasis, a greater depth of understanding is required, and additional material on applications is included. Prerequisite: Successful completion of MAT 023 and MAT 024 (or MAT 021 and MAT 022) or a 490 or above SAT Math score or a satisfactory score on the mathematics diagnostic examination. 4 credits

TOPICS TO BE STUDIED:

1.	Fundamental Concepts of Algebra	1 week	Chapter P: Sections 1,2,3
2.	Functions and Graphs	3 weeks	Chapter 1
3.	Polynomial and Rational Functions	3 weeks	Chapter P: Sections 4,5,6 Chapter 2
4.	Exponential and Logarithmic Functions	3 weeks	Chapter 3
5.	Systems of Equations and Matrices	2 weeks	Chapter 7, Chapter 8
6.	Additional topics:Conic Sections/ Sequences	1 week	Chapter 9/10

HOMEWORK: Homework will be assigned every day. Though not always collected, subsequent classes will progress with the assumption that each student has completed the homework assignment. Homework will be collected once per week, and random Application, Writing or Critical Thinking exercises will be graded.

QUIZZES: There will be approximately one quiz in class each week, usually on Friday. The quizzes will be taken directly from the *practice* homework exercises. If all the quizzes are taken, the lowest two grades will be dropped. There will be no make-up quizzes. If you miss a quiz for any reason, that quiz (up to two) will count as one of the dropped quiz grades. Otherwise, you will receive a 0 for that quiz grade.

EXAMINATIONS: There will be three in-class examinations, on dates to be determined. In addition, there will be a cumulative final at the end of the semester. All students are required to take all examinations and the final.

CLASS PARTICIPATION: You are expected to come to class and participate each day. Class time will include lecture, exploration activities, interaction between students, and interaction between students and instructor. Your learning will be greatly impacted by your willingness to participate in the class. The classroom atmosphere will be one of respect, inquisitiveness, and collaboration.

YOUR GRADE COMPUTATION:

HOMEWORK:	15%
QUIZZES:	15%
EXAMINATION:	45%
FINAL:	20%
CLASS PARTICIPATION:	5%

The grading scale will be:

A	100 – 94	C+	79 - 77
A-	93 – 90	C	76 - 74
B+	89 – 87	C-	73 - 70
B	86 – 84	D+	69 - 66
B	83 – 80	D	65 - 63
		F	62 – 0

AT THE END OF THIS COURSE, STUDENTS SHOULD BE ABLE TO:

- Solve problems requiring the application of elementary algebra:
- Graph polynomials both by sketching and utilizing a graphing calculator, explaining features such as intercepts, vertex, slope, line of symmetry, translation.
- Define a function and determine if an equation represents a function; define domain and range of a function.
- Identify and solve problems involving exponential and logarithmic functions and equations.
- Solve problems involving systems of equations.

Paraphrased from www.libraryofmath.com/precalculus-1-learning.html

TIPS FOR SUCCESS:

- For each class hour you should spend at least 2 hours outside class studying for this course.
- Read through the section to be completed in class before you come to class.
- Read through your notes before the next class.

- A full understanding of the homework is a good indication of potential to perform well on the examinations. Since homework assignments are based on the class material and the pertinent sections in the book, both class attendance and reading ahead is your best help. The homework assigned is the least amount of problems that you should be doing. If you have difficulty with a problem, be sure to find a similar problem to do after you think you have a firm grasp on the ideas. Also, go over text examples and other examples done in class.
- Ask questions when they come up in class. If there is a theoretical question, be sure to get it answered before we move into another section. The day before an examination is not adequate time for information to sink in. Do not put off getting clarification.
- Try to follow along as the problems are being done in class. In fact, you may try to do the problem yourself as I am doing it on the board. This should solidify your understanding of the information.
- Don't go it alone. Get a study partner. Research has shown that students learn most effectively when working with peers (cooperative learning/ collaborative learning). Small groups promote attention to individual needs in learning, increase peer support for puzzling out solutions, and provide experience in teamwork. You are strongly encouraged to work with another student or small group of students when reviewing notes, studying for tests, completing homework assignments. However, don't confuse 'copying' with 'collaboration'.
- Come in to see me and/or get help from tutors if you are having difficulty.