Course Objectives

1. **Gaining factual knowledge including the mathematical notation and terminology used in this course.**
   Learn the vocabulary, symbolism, and basic definitions used in college algebra including the real numbers, exponents, radicals, polynomials, factoring, functions, equations, inequalities, graphs, sequences, and series.

2. **Learning fundamental principles including the laws and theorems arising from the concepts covered in this course.**
   Become familiar with the laws and formulas that result directly from the definitions; for example, exponential and logarithmic properties, Factor Theorem, Remainder Theorem, Descartes’ Rule of Signs, Binomial Theorem, Rational Root Theorem, Fundamental Theorem of Algebra, and the Intermediate Value Theorem.

3. **Learning how to apply course material along with techniques and procedures covered in this course to solve problems.**
   Use the facts, formulas, and the techniques learned in this course to simplify algebraic expressions, graph functions, solve equations and systems of equations, expand binomials, and identify arithmetic and geometric sequences.

4. **Developing specific skills, competencies, and thought processes sufficient to support further study or work in this field or related fields.**
   Acquire a level of proficiency in the fundamental concepts and applications necessary for further study in academic areas requiring college algebra as a prerequisite, or for work in occupational fields requiring a background in algebra. These fields might include education, business, finance, marketing, computer science, physical sciences, and engineering, as well as mathematics.

Course Content

**Textbook:** *College Algebra*, Third Edition, by Blitzer. Content consists of the following topics, listed according to the corresponding chapters in the text. (See textbook “Contents.”)

**P. Prerequisites:** Exponents and Scientific Notation; Radicals and Rational Exponents; Polynomials; Factoring Polynomials; Rational Expressions.

1. **Equations, Inequalities, and Mathematical Models:** Linear equations; Formulas and Applications; Complex Numbers; Quadratic Equations; Other Types of Equations; Linear Inequalities; Quadratic and Rational Inequalities.

2. **Functions and Graphs:** Lines and Slope; function notation; domains; intercepts; symmetry.

3. **Polynomials and Rational Functions:** Quadratic Functions; Polynomial Functions and Their Graphs; Remainder and Factor Theorems; Zeros of Polynomial Functions; More on Zeros of Polynomial Functions.

4. **Exponential and Logarithmic Functions:** Exponential Functions; Logarithmic Functions; Properties of Logarithms; Exponential and Logarithmic Equations.

6. **Matrices and Determinants:** Matrix Solutions to Linear Systems; Inconsistent and Dependent Systems.

8. **Sequences, Induction, and Probability:** Sequences and Summation Notation; Arithmetic Sequences; Geometric Sequences; The Binomial Theorem.
Math 1302.020 College Algebra  
Juan P. Montemayor  
Spring 2006

Office: MCS 219 F  
Phone #: 942 – 2317 ext. 232  
email: Juan.Montemayor@angelo.edu  
webpage: www.angelo.edu/faculty/jmontema/

Code of Conduct:  
Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is available on the web at http://www.angelo.edu/forms/pdf/honorcode5.pdf.

Statement on Disability:  
"Persons with disabilities which may warrant academic accommodations must contact the Student Life Office, Room 112 University Center, in order to request such accommodations prior to any accommodations being implemented. You are encouraged to make this request early in the semester so that appropriate arrangements can be made."

Other Classes:  
Math 130B.080  TTh 9:30-10:45 MCS 214  
Math 130B.110  TTh 2:00-3:15 MCS 214  
Math 1302.020  MWF 9:00-9:50 MCS210  
Math 1312.040  MW 12:00-1:15 MCS 110

Office Hours

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<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
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<td>Math Lab:</td>
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<td>MCS211 Tues.3:30-4:00, Thurs.1:00-2:00</td>
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Math Lab:  
All classes  
MCS 215  M-Th: 2:00 – 5:00,  F: 2:00-4:00  
MCS 211  M – Th  6:00 – 8:00 PM

Developmental Classes  
MCS 211:  M – F  1:00-4:00

Important Dates:  
Look on the webpage for exam dates, drop date and holidays (Calendar)

Grading:  
A: 90 and above  B: 80 – 89  
C: 70 – 79  D: 60 – 69  F: below 60
**Exams:** You will have four short exams - 2-4 pages (20-45 minute tests) – drop the lowest of four 
40% of grade

Midterm: comprehensive up to the first half of the semester: 20% of grade 
Final Exam: comprehensive (all semester) 25% of grade

**Attendance:** 5% of grade

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<tr>
<th>Absences</th>
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<tr>
<td>0-2</td>
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<td>3-4</td>
<td>85</td>
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<td>5-6</td>
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<td>7-10</td>
<td>65</td>
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<tr>
<td>More than 10</td>
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**Homework:** 5% of grade 
(Five-ten) problems to be turned in the NEXT Class day after it is assigned unless told otherwise. Use the form posted on webpage to turn in the daily HW problems.

(Answer sheet [Word](#) or [PDF](#))

(maximum grade you will receive will be a 95)

**Rest of HW:** 5% of grade
Other assigned problems not turned in with original problems
1) in a folder 2) followed proper instructions

(maximum grade you will receive is a 95)

*Homework Policy* on webpage.

**Final Exam:** Comprehensive – everybody must take exam – no exceptions

**Quizzes:** short quizzes – part of HW – should be turned in with HW (folder)

**NOTES:** Notes are extra – sometimes they are available – sometimes they are not. When they are available you should bring them to class. There may be times that I will ask to see your notes (in addition to / or instead of) your HW

**Bonus:**

Being late to class will be considered as being absent

Encouragement – be in class and do the HW

1. If you miss 0 or 1 day (either excused or unexcused) and have turned in all HW I will add 1 point to your overall average and add four points to your final exam.

2. If you miss 2 or 3 days (excused or unexcused) and have turned in all HW add 1 point to your overall average and – add two points to your final exam.

**NOTE:** No Make-Ups of any kind. Graphing Calculators are discouraged and in most cases not allowed.

You may or may not have reviews (tests) or review sessions.