ANGELO STATE UNIVERSITY/GLEN ROSE HIGH SCHOOL
DUAL CREDIT
INDEPENDENT STUDY AND COLLEGE ALGEBRA
MATH 1314GR6
2019-2020

I.   **INSTRUCTOR – MRS. JAMI LOVELADY**

Office: 504   Tutorial Hours: Mornings – Monday
                                                                                             through Friday

Conference: Seventh Period   Phone: 254-898-3824

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II.   **INTRODUCTION**

This course will take a school year to complete. The students in this course, in most cases, will have completed Algebra II before enrolling. After successfully completing this course in May, the student will receive credit for an Independent Study, high school math course, and College Algebra.

Algebra II is a required high school mathematics course in Texas. College Algebra is essentially a high school Algebra II course with some Pre-Calculus thrown in. In most colleges, it is the first math course that is required for non-science and non-math majors. This course is required for example, by most colleges for elementary education majors, journalism majors, and criminal justice majors.

We will begin the year with a review of Algebra I and will then go quickly into Algebra II topics.   We cover polynomials, quadratics, graphing, functions, logs, exponentials, etc. By May, we will have covered all of the topics listed on the syllabus provided by Angelo State University.

College Algebra, as mentioned before, is accepted at most colleges as a math credit. This of course, will depend on the college so each student should contact their prospective institution and check. Most colleges will take a "C" or better as passing which means that they will receive credit for the course. However, there are some colleges that still accept a "D" as passing. Again, the student should check with the college they plan to attend to see what their policies are.

In order to receive high school credit, the student must make a "C" or better.

III.   **METHOD OF INSTRUCTION**

The instructor is required to cover all of the topics listed on the syllabus from Angelo State University in order for the student to receive credit for College Algebra. The material will be covered using the outline provided at the end of this course description. The student will be required to read their book, work problems in class with the instructor, and work problems on their own as homework.

Each class will begin with a warm-up exercise of some kind – deductive reasoning problems, word problems, or review problems. After discussion of the warm-up the instructor will

discuss the homework given during the previous class. After the homework has been discussed, the instructor may choose to go on to the next topic, review, or give a quiz.

The instructor will discuss the next topic with the class by giving notes and examples. Then the students will be given several problems to work in class under her supervision. These problems will serve as guided practice. After a sufficient amount of time, the instructor will work problems on the board from the guided practice and will then assign more problems that will be done by the student on his/her time. The instructor will keep the number of problems assigned to a minimum, but the student is encouraged to work more problems if they feel that more practice is needed.

As mentioned previously, the instructor will give pop quizzes to determine what progress the students have made in a particular area. These quizzes will tell the instructor whether or not more time needs to be spent in this area. After a topic has been completed, a test will be given. The test will be graded, and discussed during the next class meeting.

IV.   INSRUCTIONAL MATERIALS

Text: <u>College Algebra</u>, 5th Edition, by Robert Blitzer.   Published by Pearson/Prentice Hall.
   *The student will need to provide a book cover for the textbook. The book needs to be covered at all times!!

Calculator: An electronic calculator is not required. In fact, the use of a graphing calculator is discouraged for most of this course. The calculator will be used when dealing with logarithms and systems with three variables. You may use your own calculator, or you may check one out from the school.

Materials such as the book, paper, and pencils should be brought to class each day!
Please do not expect the instructor to provide these materials for you if you have forgotten them.

V.   STUDENT LEARNING OUTCOMES

1. **<u>Students will demonstrate factual knowledge including the mathematics notation and terminology used in this course.</u>** Students will read, interpret, and use the vocabulary, symbolism, and basic definitions used in College Algebra including the real numbers, exponents, radicals, polynomials, factoring, functions, equations, inequalities, and graphs.

2. **<u>Students will describe the fundamental principles including the laws and theorems arising from the concepts covered in this course.</u>** Students will identify and apply the laws and formulas that result directly from the definitions: for example, the quadratic formula, rules of exponents, and properties of logarithms.

3. **<u>Students will apply course material along with techniques and procedures covered in this course to solve problems.</u>** Students will use the facts, formulas, and techniques learned in this course to simplify algebraic expressions, graph functions, and solve inequalities, equations, and systems of equations.

4. **<u>Students will develop specific skills, competencies, and thought processes sufficient to support further study or work in this field or related fields.</u>** Students will 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.

VI.   TUTORIALS

The student is expected to attend all lectures and to be on time. The student is also expected to read the textbook, work problems regularly, and to ask questions when needed.

The student is strongly urged to seek assistance whenever a difficulty arises. The material in this course builds on material learned previously. A delay in seeking help will only compound the problem. The instructor will be available for help before school begins each day unless there is a faculty meeting or parent conference to attend.

VII.   ATTENDANCE AND ABSENCES FOR HOLY DAYS

Each student is expected to maintain regular class attendance.

If you must be absent, please contact the instructor as soon as possible. The instructor may be contacted by phone or computer.   In fact, the student should make every attempt to notify the instructor before the next class meeting. If a test is missed, the test needs to be taken before the next class meeting so that the other students may receive their graded test and the test may be discussed in class.

If the student must be absent for a school-related function, the instructor should be given advance notice in advance by the sponsor of the function. This does not happen in many cases, so it becomes the responsibility of the student to notify the instructor well in advance so that arrangements may be made for make-up work. **If the student is to be gone on the day of a test, the test should be taken either before the absence, or the day the student returns. If the students is absent the day before a test, the student will be expected to take the test as soon as they return. Test dates will be announced well in advance.**

Any student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence.

The last day to withdraw from this course is Thursday, October 31.

VIII.   HOMEWORK

The instructor will assign homework during each class meeting. The number of problems will be kept to a minimum. However, if the student feels that more practice is needed, they should work more problems than were assigned.

Homework will not always be graded, but will be discussed in class. The "pop quizzes" that will be given periodically, will cover the homework material. Therefore, if a student does not do their homework, there is a very good chance that they will not do well on the quizzes or tests.

IX. QUIZZES

Quizzes will be given at various times during the semester. Quiz questions will be taken from the homework and class discussion. Each quiz will be worth 100 points.

X. TESTS

There will be approximately five tests given during each semester. The material covered on the test will reflect the material covered in class, on the homework, and on the quizzes. The tests will not necessarily cover a particular chapter, but may instead cover a particular topic.

The student should make every effort to attend class when a test is scheduled. If a student misses a test, that test should be taken within a week of the original test date. Make-up tests should be scheduled with the teacher for a day after school.

XI. MAKE-UP WORK

The student should make every attempt to attend class each day and not be tardy.

The quizzes will not be announced. The tests will be given on the assigned date. The student should make every effort to attend class when a test is scheduled. Make-up tests must be scheduled, and the instructor will not drop a test grade or give a "re-test."

If homework was missed, it is the responsibility of the student to make sure it is turned in. The instructor will not remind the student of any missing work. The student should check their grades online each week. The instructor will try to have everything in the grade book by the end of school on Monday.

XII. SEMESTER GRADE COMPUTATION

There will be at least five tests given each semester. The homework and quizzes will be averaged and counted as 20% of the final grade. The test average will count as 60% of the final grade, and the comprehensive final exam will make up the remaining 20% of the grade.

The semester grade will assigned according to the table below.

Numerical Average	Letter Grade
90-100	A
80-89	B
70-79	C
60-69	D
0-59	F

XIII. ONLINE GRADEBOOK AND CANVAS

Each student and their parents/guardians have access to their grades online. Please make a point to look at your grades from time to time. I will take several grades during a semester,

and I will make every effort to grade the work as it comes in. These are your grades…I simply record them.

Canvas is a great educational tool. On this site, you will find my outline, my flipcharts, a list of assignments, and occasionally you will find a quiz to take. You should get familiar with this tool. Many colleges are using an online communication tool such as Canvas, Schoology, or Blackboard.   In some cases, this is your only communication with a professor. Please make a point of accessing Canvas often.

XIV. ACCOMMODATIONS FOR DISABILITIES

Persons with disabilities which may warrant academic accommodations must contact the Office of Student Services at Angelo State University in Suite 112, Houston Harte University Center (325)942-2047 (studentservices@angelo.edu) 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.

XV. ACADEMIC DISHONESTY

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

Academic dishonesty in this classroom will not be tolerated. Anyone caught cheating will receive a "0" for the work, and the instructor will then report the incident to the proper authorities for appropriate disciplinary action.

XVI. COURSE OUTLINE

Date	Objectives
August	Real Number System Exponents – Rules PEMDAS - Order of Operations Working with Radicals
September	The Pythagorean Theorem Distance and Midpoint Formulas Imaginary and Complex Numbers Equations with Radicals Completing the Square The Quadratic Formula Polynomials Adding, Subtracting, Multiplying, and Dividing Factoring
October	More Factoring Solving Quadratic Equations by Factoring Inequalities

Linear
                        Compound
                        Absolute Value

November   More with Inequalities
                        Quadratic
                        Rational

                    Begin Graphing Linear Equations
                        Slopes
                        Intercepts
                        Parallel and Perpendicular lines
                        Writing Equations of Lines

December   Domain and Range
                    Working with Functions
                    Inverses
                    Graphing Inequalities with Two Variables
                    The Circle
                    The Ellipse
                    Midterm Exam

January   Review
                    The Parabola
                    The Hyperbola
                    Exponential Functions
                        Basics
                        Properties
                        Equations
                        Graphing
                        Compound Interest

February   Logarithms
                        Basics
                        Change of Base
                        Properties
                        Equations
                        Graphing
                    Solving Systems of Equations
                        Cancellation and Substitution
                        Cramer's Rule

March   Matrices
                        Basics
                        Adding, Subtracting, Scalar Multiplication,
                        and Multiplying
                        The Inverse Matrix
                        Solving Systems of Equations
                    Polynomial Equations
                        Synthetic Division
                        Factoring
                        Other Methods

April   Finish Polynomial Equations

	Working with Rational Expressions
	Rational Equations
	Rational Inequalities
	Graphing Rational Functions
May	Finish Rational Functions
	Variation
	Review of Word Problems
	Systems of Inequalities

Final Exam   **Tuesday – May 5, 2020**

*This schedule is subject to change as deemed necessary by the instructor.