

**SUL ROSS STATE UNIVERSITY
COLLEGE ALGEBRA, MATH 1314:003
SYLLABUS
FALL 2014
TUESDAY AND THURSDAY 2:00-3:15 p.m.
BAB 304**

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Office Hours: By appointment
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COURSE DESCRIPTION (From Catalog)

A university-level algebra course for students who plan to take calculus. Topics include linear and quadratic equations and functions, inequalities, graphs and zeros of polynomial and rational functions, exponential and logarithmic functions, matrices and vectors and systems of equations and inequalities

Prerequisites: Completion of Math 1301 (A,B, or C) or a satisfactory score on the THEA, COMPASS or other mathematics test.

COURSE OBJECTIVES

By the end of the course, the successful student will be able to:

- Solve linear, quadratic, radical and rational equations and inequalities using methodology appropriate for each;
- Solve applied problems of linear, quadratic, radical and rational equations and inequalities;
- Graph and interpret the different types of functions & use them to model data;
- Use unique aspects of linear and quadratic functions to characterize each (i.e., slope, intercepts, vertex, maximum and minimum values; and,
- Apply polynomial, rational, exponential and logarithmic functions.
- Understand and use elementary matrix and vector operations.

MATHEMATICS PROGRAM LEARNING OUTCOMES

The graduating student will demonstrate that he/she is able to:

- Apply knowledge of basic mathematics principles;
- Identify and provide valid proofs or solutions for theorems and problems;
- Recognize and dispute invalid mathematical statements using counter-examples.

EC TO 6 TEACHER COMPETENCIES

- Competency 013 (Mathematics Instruction) The teacher understands how students learn mathematical skills and uses that knowledge to plan, organize and implement instruction and assess learning.
- Competency 014 (Number Concepts and Operation) The teacher understands concepts related to numbers, operations and algorithms and the properties of numbers.
- Competency 015 (Patterns and Algebra) The teacher understands concepts related to patterns, relations, functions and algebraic reasoning.
- Competency 016 (Geometry and Measurement) The teacher understands concepts and principles of geometry and measurement.
- Competency 017 (Probability and Statistics) The teacher understands concepts related to probability and statistics and their applications.
- Competency 018 (Mathematical Processes) The teacher understands mathematical processes and knows how to reason mathematically, solve mathematical problems and make mathematical connections within and outside of mathematics.

COURSE TEXT AND MATERIAL

Blitzer, Robert; College Algebra, 6th Edition, 2014; Pearson Education, Inc.; ISBN 978-0-321-78228-1

COURSE CONTENT/MATERIAL (tentative and as time permits)

Chapters P – parts, brief review as needed for later sections
Chapter 1: Equations and Inequalities-all
Chapter 2: Functions and Graphs-all
Chapter 3: Polynomial and Rational Functions – all
Chapters 4: Exponential and Logarithmic Functions – parts
Chapters 5: Systems of Equations and Inequalities– parts
Chapters 6: Matrices & Vectors—parts

ATTENDANCE & CONDUCT POLICIES

Class will start at the designated time and will fill the scheduled period with no breaks. Plan to arrive on time, attend all classes, stay for the duration of class time and be prepared to learn the material being covered. Bring all materials needed, including your textbook, take notes and participate in class discussion. Turn-off prior to entering the class room any electronic, non-task oriented device such as cell phones and MP3 players. Devices for recording lectures will be permitted after discussion with the instructor.

If you miss class for any reason, contact me, preferably before the absence, to obtain assignments and be prepared for the next class meeting. Absences should be the result of an emergency or some other reasonable activity that occurs during class time. A student with six absences may be dropped from the course for non-attendance with a grade of F.

DISABILITIES ACCOMMODATION

Sul Ross State University is committed to equal access in compliance with the Americans With Disabilities Act of 1973. It is the student’s responsibility to initiate a request for accessibility services. Students seeking such services must contact Mary Schwartz, M. Ed., L.P.C. in Counseling and Accessibility Services, Ferguson Hall, Room 112. The mailing address is P. O. Box C-122, Sul Ross State University, Alpine, Texas 79831. Telephone: 432-837-8203. Email: mschwartz@uslross.edu.

GRADING

These are the requirements for a successful completion/passing grade in this course. Your grade will be based on the following percentages:

Exams	#1	25%	
	#2	25%	
	#3	25%	
	Final Exam	25%	(Tuesday, Dec. 9, 12:30, p.m.)

Pop Quiz average may replace lowest exam grade excluding the Final Exam is higher.

Exams – depending on the material, note cards or formula sheets may be allowed or will be provided.

Pop Quizzes –will cover primarily the previous class-day materials

Grades will be earned as follows:

100% to 90%	A – Excellent
89.9% to 80%	B – Good
79.9% to 70%	C – Average
69.9% to 60%	D – Poor
59.9% & below	F – Failing

Extra credit may be awarded for any appropriate, current algebra-related article or item (not a text book) brought by a student (submit a copy of the article and a brief written analysis or discussion of relevance—this will augment the pop quiz grade).

TENTATIVE SCHEDULE – SUBJECT TO CHANGE

MONTH	DAY	TOPIC
AUGUST	28	Introduction, Syllabus, Chapter P Discussion and Algebra Review.
	2	Graphing, Linear and rational Equations.
	4	Complex Numbers and Quadratic Equations.
	9	Other Types of Equations.
SEPTEMBER	11	Linear & Absolute Value Inequalities .
SEPTEMBER	16	Catch-up & Review.

	18	Exam #1
	23	Functions and Graphs.
	25	More Functions and Graphs.
	30	Linear Functions and Slope.
	2	Combinations of Functions and Composite Functions.
	7	Inverse Functions.
OCTOBER	9	Midpoints and Circles.
	14	Quadratic Functions.
	16	Catch up
	21	Review
	23	EXAM #2
	28	Polynomial Functions
	30	Rational Functions
NOVEMBER	4	Exponential Functions.
	6	Logarithmic Functions
	11	Exponential & Logarithmic Equations.
	13	Systems of Linear Equations.
	18	Systems of Inequalities.
	20	Catch-Up and review
	25	EXAM #3
	27	<i>Thanksgiving Holidays NO CLASSES</i>
DECEMBER	2	Matrices & Operations
	4	Vectors & Operations
	10	<i>Final Exam Tuesday, December 9, 2014, 12:30 P.M.</i>