

**SUL ROSS STATE UNIVERSITY
UNIVERSITY ALGEBRA, MATH 1314:001
SYLLABUS
Spring 2015**

Instructor: Robie Golden

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Office hours: by appointment (Please call/text or see me before/after class to schedule)

Time and Place of Class Meetings: Math 1314:1 - MWF 10:00 – 10:50 am MAB 207

Time and Place of Class Meetings: Math 1314:5 -MWF 9:00 – 9:50 am LH 200

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 – all

Chapters 5: Systems of Equations and Inequalities– parts

Chapters 6: Matrices & Vectors—parts and Chapter 7: Conic Sections - 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. No makeup exams will be given.

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 nine absences may be dropped from the course for non-attendance with a grade of F.

DISABILITIES ACCOMMODATION

It is Sul Ross State University policy to provide reasonable accommodations to students with documented disabilities. If you would like to request such accommodation because of a physical, mental or learning disability, please contact the ADA Coordinator in the Counseling and Accessibility Services Office, Ferguson Hall 112, or phone 432-837-8203.

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%

Weekly Short Quizzes Average may replace one Exam grade if higher

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

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

TENTATIVE SCHEDULE – SUBJECT TO CHANGE

MONTH	DAY	TOPIC
January	21	Introduction, Syllabus, Chapter P Algebra Review.
	23	Algebra Review
	26	Graphing, Linear and Rational Equations.
	28	Complex Numbers
	30	Quadratic Equations
February	2	Other Types of Equations
	4	Linear & Absolute Value Inequalities
	6	Review
	9	EXAM I
	11	Hand back and go over Exam I for questions
	13	Functions and Graphs
	16	Linear Functions and Slope
	18	Inverse Functions
	20	Midpoints and Circles.
	23	Quadratic Functions

	25	Rational & Polynomial Functions
	27	Exponential Functions.
March	2	Logarithmic Functions and Properties of Logarithms.
	4	.Exponential & Logarithmic Equations
	6	Review
	9	EXAM II
	11	Hand back and go over Exam II for questions
	13	Systems of Linear Equations in Two Variables
	16-20	SPRING BREAK
	23	Systems of Linear Equations in Two Variables
	25	Systems of Linear Equations in Three Variables
	27	Partial Fractions
April	30	Systems of Inequalities
	1	Review
	3	Matrix Solutions to Linear Solutions
	6	Matrix Operations
	8	Multiplicative Inverses of Matrices
	10	Determinants and Cramer's Rule
	13	Review
	15	EXAM III
	17	Hand back and go over Exam III for questions
	20	The Ellipse
22	The Hyperbola	
	24	The Parabola
	27	Catch up
	29	Catch up
May	1	Catch up
	4	Review
	6	Review - No class on the 8th
	Final Exam	Section 1: Final Exam Mon, Dec 11th, 10:15 A.M. Section 5: Final Exam Wed, Dec, 13th, 8:00 A.M.