

**Math 1314 Syllabus**  
**College Algebra**  
**Spring 2016 Sul Ross State University**

<b>Sec. 005:</b>	Tu, Th: 2:00-3:15p in ACR 204
<b>Instructor:</b>	Dr. Kris Jorgenson
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<b>Office Hours:</b>	M, W, F: 10a-12p; Tu, Th: 11a-12p, 3:30–4:30p also available by appointment

**Course Description:** The prerequisite is Math 0301 or a satisfactory score on a Mathematics Placement Exam. This is 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 functions, complex numbers, exponential and logarithmic functions, conic sections, matrices and vectors.

**This course satisfies 3 hours of math requirements of the Core Curriculum.**

**Students who are required to take Math 1314 include those planning to take**

- (1) Calculus 1 (Math 2413, which has the additional prerequisite of Math 1316);**
- (2) Business Calculus (Math 1325);**
- (3) Foundations of Elementary Mathematics 1 (Math 2310);**
- (4) Computer Science and many other Bachelor of Science Degrees—check with your advisor**

**Student Learning Objectives** Successful students will demonstrate correct understanding and knowledge of the algebra topics including but not limited to those of the preceding paragraph through use of correct terminology, listing, identifying, and labeling. Particular emphasis will be placed on the order of operations and the algebra and language of functions. Students will translate, extend, synthesize, and apply concepts and problem-solving methods to different problem-solving situations. Students will demonstrate correct knowledge of the difference between numbers (perhaps in the context of another mathematical object such as a function or algebraic expression) that are in exact form and numbers that are approximate and will be able to report numbers in exact form and with a correct approximation when required. Students will express their solutions clearly in writing using complete sentences when appropriate.

**Required Materials:** Textbook: College Algebra, 6th edition by Blitzer, ISBN-13: 978-0-321-78228-1. Additional practice problems for exercises in this edition of the Blitzer text can be found online for free at the website: <http://interactmath.com> (At this web address, select “Enter”. On the new page on the left, scroll down to “Blitzer: College Algebra, 6e” and press select.)

**Scientific Calculator:** There will be some need of a scientific calculator, which has buttons with denotations such as  $y^x$ ,  $a^b$ ,  $\wedge$ ,  $e^x$ , LN, LOG, but use of a calculator will not be a large part of this course. A calculator may be used to check arithmetical calculations throughout the semester. Graphing calculators contain a scientific calculator, but this more expensive

graphing utility will not be needed in this course. In fact, calculators capable of symbolic manipulation such as the TI-89 or TI-92 will not be allowed. Appropriate scientific calculators cost usually \$8-\$30 each.

Class Materials: Students are expected to be prepared in every class with pencils and paper in some sort of organized notebook for taking notes of lecture content and examples, and for homework. You are required to be involved in class activities every class day. This will be part of your grade. At the beginning of each new unit, I will hand out all of the assignments for the new unit of study. Also I will post a set of lecture slides on Blackboard (under "Content") for the unit that I will use in class. It is a good idea for you to print out a copy of these lecture slides and bring these to every class.

Blackboard: Also you are required to have access to Blackboard and have an e-mail address that you check regularly be your e-address registered in Bb since I may need to contact you outside of class with important information.

**Grading and Assignments:** The assignments discussed below will help students achieve all of the Learning Objectives mentioned previously through active learning and assessment. Your total grade will break down as follows:

**Daily Grade (DG)** is worth **30%** and consists of **Class Study Grades (CSG)** worth **15%** and **Quizzes** worth **15%**. The **Test Average (TA)** worth **70%** will be based on 3 in-class unit tests.

Students will be given a set of **Unit Assignments** at the beginning of each unit. Students will be told which of the assignments they should be concentrating on to finish during the coming week. It is very important that you keep up with these homework assignments in your notebook. On average, students should make it a goal to complete and understand 3-5 homework exercises each day. Students will have approximately 3 quizzes prior to each test. On days in which there is no in-class quiz or test, students will receive CSG credit based on attendance and class participation. This includes taking notes of class examples as well as the time designated during class for completing homework exercises. In this way, students will receive a DG in every class except test days. The homework assignments will be the basis for the in-class quizzes and tests. Students may use their homework notebook during the in-class quizzes, but not the in-class tests.

There will be 3 unit tests each based on the corresponding Unit Assignments. The dates for the Unit Tests are as follows.

<b>Test 1</b>	<b>Thur, Feb 18</b>
<b>Test 2</b>	<b>Thur, March 31</b>
<b>Test 3</b>	<b>Tues, May 10, 12:30-2:30 pm</b>

Each of these tests will count in your test average. However as a bonus to you, your highest test grade will count twice. Therefore, you will have 4 test grades in all. Students may use only one page of pre-written notes during each test in addition to writing/erasing implements and calculator.

**Smarthinking online tutoring** Students will be able to earn back points missed on one in-class quiz for each unit of study for a total of 3 quizzes corrected using the Smarthinking online tutoring system. In Blackboard 9 for this course, there is a link to Smarthinking online tutoring. To earn back points on a quiz grade, students must learn and correct a quiz using this tutoring system and print out the session for this tutoring session to hand in to

me. I reserve the right to question you on the tutoring session to ensure that you have learned the topic of the quiz before awarding back to you these quiz points. Such a make-up correction must be made before the unit test corresponding to the quiz topic, and also within a week after the graded quizzes are returned to students regardless of whether you are in class on the day that the quizzes are returned.

**Late Work, Rescheduled Quizzes/Tests** No late homework will be accepted, but I will accept homework (which might arise if we have a take-home quiz) as long as it is handed in by 5 pm on the due date. To take an in-class quiz or test at a time other than the scheduled time, you must notify me of this absence ON OR BEFORE THE DAY MISSED, and satisfy one of two requirements: either (1) supply a written medical excuse signed by a medical professional for the day of the absence, or (2) your excuse is for a university activity, in which case you must notify me of this authorized absence in writing with your name, the name of your organization and the date(s) of your absence, and your name must appear on a published explained absence list that I am provided (or this is verified by a faculty sponsor). Also, you and I must set up a time for you to make up the quiz or test within a reasonable time period (not more than 1-3 days) before or after the time of the missed grade. Usually I will let you make up a grade according to the above conditions if it is due to another one-time occurrence, such as the care of someone else in your family or a friend, or for a work-related excuse as long as you can document your absence and you let me know BY THE DAY OF THE ABSENCE AT THE LATEST. A CSG may also be made up with me in my office if you follow the above policy.

**Attendance** I will be taking attendance as university policy precludes you from missing more than 5 classes for anything other than authorized university activities since you cannot miss 3 weeks of classes (six classes). To excuse an absence for a university activity, in addition to letting me know of the absence by the day of the absence (as explained previously) you must also spend at least 60 minutes outside of class on this course with me or with a tutor, but the tutor will need to sign a note that documents this made-up time. Also I will allow you to excuse a test day for a documented medical absence as long as you also make up the test with me. If you have 6 or more unexcused absences, I reserve the right to drop you from this class with a grade of 'F', which is university policy.

**Good Advice** Concentrate on learning the material of the course rather than worrying about your grade. Your time is best spent concentrating on the material to be learned in the impending assignments, asking questions, and devoting yourself to activities that will help you learn the material and do better in the course. I will worry about the details of your grade since you doing so does not help you earn a higher grade. But learning the material and doing well on the tests *will* help your grade. **Remember that math is not a spectator sport**, so the more problems you work yourself and the more practice you get, the more confident you will be, and the better you will do in this course. Working on the problems helps you to figure out what your specific questions are.

### **More Good Advice**

Keep absences to a minimum. You never know when you might miss something you will find important either from the lecture or class discussion such as questions other students ask. Remember: YOU ARE RESPONSIBLE FOR EVERYTHING THAT IS DISCUSSED DURING CLASS WHETHER YOU ARE PRESENT OR NOT.

Also do not allow yourself to develop bad habits such as missing classes. It's human

nature to be controlled by our habits, so once you develop a daily habit for the semester, it can be hard to break this habit. So be sure that you allow the necessary time for this course, ESPECIALLY if you consider mathematics not to be your best subject. If you have trouble in math, then you should attend EVERY class of a college mathematics course. Not showing up to class or not doing the required work will not cause this class to “go away”. If you do have to miss, let me know before class, and plan to come and see me and make an appointment to discuss what was missed and pick up assignments you did not get back. However meeting in my office is not a substitute for attending class.

Ask questions no matter how easy or trivial they may seem. There is no such thing as a bad or silly question. Questions result when you are interested and have been thinking about areas, such as mathematics, in which you have some limitations in your educational background. Being in a college mathematics course means you will have questions both obvious and more subtle. Asking questions is a very important part of learning.

Study and work problems regularly—every day. Work on assignments discussed in class as soon as you can after class while the methods discussed are still fresh in mind. You can't expect to succeed in a math course by waiting till the last minute to only study and cram prior to a test. If you promise yourself you will study for ½-hour, get into the work, forget the clock, then the next thing you know, you've studied and worked for one or two hours.

**Classroom Conduct** It is important to conduct yourself in a college classroom so that everyone can benefit from good communication between instructor and students. My goal is to create an environment in which everyone can do their best work, learn, and make the best grades possible.

I think you will find that I am a very friendly, sympathetic, and generous instructor as long as you are sincerely working to succeed in this course and certain guidelines for classroom behavior are followed during class to allow a sanctity of study for your fellow students. Classroom habits such as holding conversations during lecture, or being engaged in activities not related to this course such as working on a different course or reading a newspaper will work against the goal of this course and cause you to be counted absent and you will lose Daily Grade credit. Also engaging with electronic communication devices of any kind during class or coming into class more than 5 minutes late or leaving early before class is dismissed circumvent the goals of this course and cause you to lose credit. My sympathy and generosity will quickly evaporate if I find that you are working against the goals of the course or that you are simply trying to get a good grade without learning or without honestly doing the required work. I want you to have every opportunity to succeed in this course.

Please be aware of the rules for Academic Honesty that you will find in the Sul Ross Student Handbook and building codes prohibiting food, beverages, tobacco (smokeless or otherwise) in the classroom. Use commonsense to think of anything else that will allow you to learn and do the best work that you can in this class, and for me to better help you do your best work. Remember that being registered for this course does not allow you to behave in any manner you wish during class. You must keep other people in mind. It is within university policy for me to send a student out of this class on a temporary or permanent basis if disruptions or interruptions like the types listed above persist.

**Equal Access** The university is committed to equal access in compliance with the Americans with Disabilities Act of 1990 (ADA) and section 504 of the Rehabilitation Act of 1973. If you have questions regarding accessibility, please consult with the Director of Counseling and Accessibility Services, Mary Schwartz, in Ferguson Hall Rm. 112, and feel free to discuss this with me in private. The mailing address is Accessibility Services, Box C-122, Sul Ross State University, Alpine, Texas 79832. The telephone number is (432) 837-8203. E-mail: mschwartz@sulross.edu.

This course is supportive of the Program Learning Outcomes for the Bachelor of Science degree in Mathematics:

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.

and also:

EC-6 Core 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.

**Important Dates**

Tue, January 19	First day of classes; late registration, schedule changes begin
Fri, January 22	Last day for late registration and schedule changes
Wed, February 3	12th class day: last day to drop without creating record
Mon-Fri March 14-18	Spring Break Holiday, no classes
Fri, April 8	Last day to drop a course with grade of "W" by 4 pm in Registrar's Office
Mon, April 18	Honors Convocation, 7:30 pm in Marshall Auditorium
Wed, May 4	Last Class Day before finals
Thu, Fri May 5, 6	Dead Days, no classes
M-Th, Dec. 9-12	Final Exams

Spring 2016	Math 1314-005 College Algebra Tentative Course Outline	
X - No Class	Tue	Thu
Jan. 19, 21	Numbers, Polynomials Order of Operations	Radicals, Rational Exponents
Jan. 26, 28	Linear Equations	Linear Applications
Feb. 2, 4	Linear Applications Sets of Real Numbers, Inequalities	Inequalities Functions
Feb. 9, 11	Functions	Linear Functions
Feb. 16, 18	Review for Test 1	Test 1
Feb. 23, 25	Matrices, Vectors	Complex Numbers
Mar. 1, 3	Quadratic Equations	Quadratic Equations Rational Equations
Mar. 8, 10	Distance, Circles	Circles
Mar. 14-18	X - SPRING BREAK	X - SPRING BREAK
Mar. 22, 24	Quadratic Functions	Applications of Parabolas
Mar. 29, 31	Review for Test 2	Test 2
Apr. 5, 7	Composition of Functions Inverse Functions	Inverse Functions
Apr. 12, 14	Exponential Functions	Logarithmic Functions
Apr. 19, 21	Properties, Applications of Logarithms	Equations of Exponentials, Logarithms
Apr. 26, 28	Applications of Exponentials, Logarithms	Applications of Exponentials, Logarithms
May. 3	Review Test 3	X - Dead Day
Tue May 10	Test 3 12:30-2:30 pm	