

Math 1314 Syllabus
College Algebra
Spring 2020 Sul Ross State University

Sec. 001:	Mon, Wed: 11a-12:15p in ACR 204
Instructor:	Dr. Kris Jorgenson
Office:	ACR 109D
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Office Hours:	M, W: 10-11a, 2:30–3:30p; Tu, Th: 10-11a, 3:30–4:30p; Fri: 10a-12p; 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, rectangular graphs, complex numbers, exponential and logarithmic functions, 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 Course Description. Particular emphasis will be placed on the order of operations and the algebra and language of functions. Students will apply concepts and problem-solving methods to different problem-solving situations. Students will demonstrate correct knowledge of the difference between numbers 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. Such numbers are often in the context of other mathematical objects such as a function or algebraic expression. Students will express their solutions clearly in writing and complete sentences when appropriate.

Necessary Materials: Textbook: College Algebra: A Concise Approach by Paul Sisson, ISBN (including software bundle): 978-1-935782-04-9. You should either get a hard copy of this textbook with the software for online homework, or just the e-book that comes with the software package. Some of your homework grade will be based on online homework, which I will denote in your class notes as OHW (Online Homework). These problems will be listed in lecture materials along with other problems in these lecture notes. You should collect the Online Homework problems as well as the lecture notes HW together in a notebook that you will be able to use during the in-class quizzes.

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. Only a stand-alone (not connected with a phone or computer) calculator may be used during quizzes and tests. Appropriate scientific calculators cost usually \$8-\$50 each. Any graphing calculators (for example the TI-83, TI-84, TI-89 or TI-92) **are not allowed**. Only stand-alone (not contained within a cell-phone or computer) calculators will be allowed on in-class quizzes and tests.

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.

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 will regularly 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%** of your total grade and consists of **Class Study Grades (CSG)** (10%), **Online Homework (OHW)** (10%), and **Quizzes** (10%). Every class day after the first class day there will either be a major test, a CSG, or an in-class quiz. The **Test Average** worth **70%** will be based on 3 in-class, unit tests.

Each day students will be told which of the assignments they should be concentrating on to finish for the next HW or Quiz grade. 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 at least 3 homework exercises each day. On days in which there is no in-class quiz or test, students will receive **CSG credit** based on attendance, class participation, and in-class work. The homework assignments (which includes the online homework but also some problems in your class notes) 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.

Students should always correct their quizzes or homework if necessary since this affords an important opportunity for learning the material that will appear on the tests. Making mistakes based on your own work and correcting these mistakes with my help if necessary is a great way to learn mathematics! Every student will be able raise 1 quiz grade to 100% before each test by coming to my office and going over your HW notebook (which must be up-to-date to receive this quiz correction credit) and the quiz to help answer any questions you may be having.

There will be **3 Unit Tests** each based on the corresponding Unit Assignments. 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 not use any notes or books during the tests: only pencil(s)/eraser(s) and scientific calculator can be used on the tests. Sufficient paper will be provided. The dates for the Unit Tests are as follows.

Test 1	Wed, Feb. 12
Test 2	Wed, March 25
Test 3	Tue, May 5, 10:15a-12:15p

Smarthinking online tutoring In Blackboard for this course, there is a link to Smarthinking online tutoring (Alpine campus undergraduate). You may use this to get **24/7 tutoring help on your homework, correct quizzes and tests for free**. Please use this and print out your tutoring session and bring to me to discuss, so that I may be sure that you are benefitting the most from this free tutoring resource.

General (But Important) Policies

Late Work, Rescheduled Quizzes/Tests Deadlines are given online for each OHW grade. These are guidelines to help you keep up with the work, but there will be no late penalties for OHW grades except no credit will be given for OHW done after the in-class test that covers a particular OHW. For in-class quizzes taken late, only half credit is given. There might be one take-home quiz that you hand in during the term for a quiz grade, but otherwise no HW will be handed in. However you must have your HW notebook up to date to earn points back on one of the quizzes preceding a test. 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) a written medical excuse signed by a medical professional is supplied for the day of the absence, or (2) if your excuse is for a university activity, 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 (sending me an e-mail is a good way to do this), and your name must appear on a published explained absence list that I am provided (or 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 or 2 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 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 area if you follow the above policy.

Attendance I will be taking attendance as university policy precludes you from missing 3 weeks or more (6 classes or more) for anything other than authorized university activities. 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 they 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 or in the testing center. 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, 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. Remember an individual homework or quiz grade may not count for a lot in your overall grade, but working and learning from the homework is **essential** because this is where you learn the topics that will appear on the tests, which do count for a lot of your grade. The best lessons learned often come from correcting a quiz or homework problem in which you have made a mistake.

More Good Advice

Keep absences to a minimum. You never know when you might miss something 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 weekly habit for the semester, it can be hard to break this habit. So be sure that you allow the necessary time for this course **FROM THE BEGINNING OF THE TERM, 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 are not understanding the material and/or have fallen behind in your work, missing class will not help. **IF YOU FALL BEHIND, PLEASE DO NOT DROP THIS COURSE WITHOUT TALKING TO ME FIRST.** Making mistakes or falling behind is natural, so it is best in this case to come to me and talk to me about this. If you do have to miss class, let me know before class, and plan to come and see me and make an appointment to discuss what you missed and pick up assignments or discuss what you are not understanding. It is essential to get your questions answered, which you are welcome to do in my office. 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 to 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 to allow a sanctity of study for your fellow students. Class 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 your cell-phone 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 and Students with Special Needs:

Sul Ross State University (SRSU) is committed to equal access in compliance with Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the Student's responsibility to initiate a request. Please contact me, Ms. Rebecca Greathouse Wren, M.Ed., LPC-S, Director/Counselor, Accessibility Services Coordinator, Ferguson Hall (Suite 112) at 432.837.8203; mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas 79832. Students should then contact the instructor as soon as possible to initiate the recommended accommodations.

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:

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

Mon, January 13	First day of classes; late registration, schedule changes begin
Thu, January 16	Last day for late registration and schedule changes
Mon, January 20	Martin Luther King, Jr. Holiday, no classes
Wed, January 29	12th class day: last day to drop without creating an academic record
Fri, April 3	Last day to drop a course with grade of "W" by 4 pm in Registrar's Office
Fri, April 10	Good Friday Holiday, no classes
Mon, April 20	Honor's Convocation, 7 pm Marshall Auditorium
Wed, April 29	Last Class Day before finals
Thu, April 30	Dead Day, no classes
Fri, Mon-Wed, May 1, 4-6	Final Exams

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X = no class	Mon	Wed
Jan. 13, 15	Real Numbers Graphs of Equations Integers	Slope, Rational Numbers Linear Functions Intercepts
Jan. 20, 22	X - MLK Holiday	Parallel, Perpendicular Lines Polynomial Operations Order of Operations
Jan. 27, 29	Polynomial function models square root radicals cube root radicals	Equivalent Equations Linear Equations Absolute Value Equations
Feb. 3, 5	Linear Inequalities Sets of Real Numbers Domains of Functions	Multi-Part Functions Irrational Numbers Radicals, Rational Exponents
Feb. 10, 12	Review for Test 1	Test 1
Feb. 17, 19	Absolute Value Inequalities Factoring Polynomials	Complex Numbers Quadratic Equations
Feb. 24, 26	Quadratic Equations Rational Equations	Applications of Quadratic Equations
Mar. 2, 4	Distance Circles	Quadratic Functions
Mar. 9-13 Spring Break, No Classes ----->		
Mar. 16, 18	Matrices and Vectors	Matrices and Vectors
Mar. 23, 25	Review for Test 2	Test 2
Mar. 30, Apr 1	Composition Inverse Functions	Inverse Functions
Apr. 6, 8	Exponential Functions	Logarithmic Functions
Apr. 13, 15	Properties of Logs	Applications of Logs
Apr. 20, 22	Exp, Log Equations	Applications of Exps, Logs
Apr. 27, 29	Applications of Exps, Logs	Review Test 3
Tue, May. 5	Test 3 Tue. - 10:15a-12:15p	