Math 1314 Syllabus
College Algebra
Spring 2023 Sul Ross State University

Sec. **002**:	Mon, Wed: 2–3:15p in ACR 204
Instructor:	Dr. Kris Jorgenson
Office:	ACR 109D
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Office Hours:	Mon, Wed, Fri: 10a-12p; Tue, Thu: 10-11a; Wed, Thu: 3:30-4:30p;
	also by appointment

Course Description: The prerequisite is Math 0301 or a satisfactory score on a Mathematics Placement Exam. This is a college-level algebra course for students who plan to take calculus. Topics include linear and quadratic equations and functions, inequalities, sets of real numbers, rectangular graphs, complex numbers, exponential and logarithmic functions with real-world application problems.

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, 3rd Edition by Paul Sisson, ISBN (including software bundle): 978-1-64277-169-5. 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 denote as OHW (Online Homework). The OHW assignments will be listed in the lecture notes along with other required homework problems. You should collect the OHW 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, or ^, e^x, LN, LOG, but use of a calculator will not be a large part of this course. Only a stand-alone (not connected to a phone or computer)

calculator may be used during the in-class quizzes and tests. Appropriate scientific calculators cost usually $10-$50 each. Any graphing calculators (for example the TI-83, TI-84, TI-89 or TI-92) **are not allowed**.

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 that will help you with the homework. You are required to be involved in class activities every class day. This will be part of your grade.

Blackboard: 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.

Pandemic Restrictions It is strongly encouraged that students get a vaccination and a booster for the Covid-19 Corona Virus. Students are also encouraged to wear a proper face covering and follow social distancing guidelines based on your own personal decision as there have been recent increases in contagious diseases that includes Covid-19.

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 in-class **Quizzes** (**10**%). Every class day after the first class there will be either a major test, in-class quiz, or a CSG. The **Test Average** worth **70**% will be based on 3 unit tests. I give letter grades according to the traditional 90%-100% for an A; 80-89% for a B; 70-79% for a C; 60-69% for a D; and less than 60% for an F; with some exceptions. Students whose total average is between 50-59% with Test Average over 50% will often be rounded up to a D but only if the student has completed every major assignment (no exceptions) while doing their best work. Students working similarly with a borderline grade of 89%, 79%, or 69% will often be rounded up to the next grade-level as long as their test average is in line with this total average.

Each class students will be told which of the assignments they should be concentrating on from the online and lecture notes HW in order to stay caught up. There are deadlines posted for the OHW that serve as a guideline to help you keep up with this HW. It is very important that you keep up with all of the homework (online and lecture notes HW) in your notebook On average, students should make it a goal to complete and understand 5 or more homework exercises each day. The homework assignments (which include the online homework and the lecture notes HW) will be the basis for the 3 unit tests. The Quizzes will primarily be over the HW in the lecture notes.

Besides studying and doing the online and lecture notes HW, students should always study and/or correct their graded quizzes, 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! Additionally, students will be able raise 1 Quiz grade to 100% before each test by communicating with me and correcting the quiz in order to fill in any gaps in your understanding before the corresponding test, but only if your HW notebook is up to date. So this will be an added bonus for keeping up with the HW in your notebook (both online and from the lecture notes).

There will be **3 Unit Tests** each based on the corresponding Unit Assignments. Each of

these tests will count in your **test average**. Students may only use pencil(s)/eraser(s) and scientific calculator during these 3 tests, which will be given in class. The dates for the Unit Tests are as follows.

Test 1	**Wed**: **Feb**. **22**
Test 2	**Wed**: **April 5**
Test 3	**Tue**. **May 16**: **3-5p**

Test 3 will be given during finals week during the alotted 2-hour period.

To Guarantee Full Credit for Work Done at a Time Different Than the Scheduled Time:

* For Tests or In-class Quizzes, be sure to contact me about the missed grade **before or by the day of the absence** and be able to produce documentation for a medical excuse or from a faculty sponsor for an absence due to a trip with a Sul Ross student organization. You can send me these documents by e-mail or in-person. Be sure to make an appointment with me to make up the quiz or test in my office area no more than 2-3 days before or after the absence.

* For a Class Study Grade, if you document your absence as explained in the previous paragraph, you can earn the CSG by making up the CSG in my office area before the day of the next test.

* For Online Homework, as explained previously, the OHW deadlines are a guide to help you keep up with these online assignments, but you can still earn full credit on an OHW assignment as long as you complete it before the next impending test. In other words, there is no late penalty for OHW as long you complete the assignment before the test that covers this OHW.

Attendance I will be taking attendance as university policy precludes you from missing 3 weeks 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 3 weeks or more of 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 will get, and the more confident you will be, and you will do better in this course. Working on the problems helps you to figure out what your specific questions are. Remember an individual

homework or quiz grade does not count for a lot in your overall grade, but working and learning from the homework and quizzes 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 to not 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 magically 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 to talk to me about this. If you do have to miss class, let me know beforehand. Discuss with me what you are not understanding. It is essential to get your questions answered. But meeting with me outside of class 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 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 the learning process.

Study and work problems regularly–every day or every other 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 immediately prior to a test. If you promise yourself you will study for a 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. Remember that

LEARNING FROM MISTAKES + PERSISTENCE = SUCCESS!

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. Habits such as holding conversations during class, 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 goals 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 learn and succeed in this course.

Please be aware of the rules for Academic Honesty that you will find in the Sul Ross Student Handbook. 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.

SRSU Alpine Disability Services. 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 each semester for each class. Alpine students seeking accessibility/accommodations services must contact Mary Schwartze Grisham, M.Ed., LPC, SRSU's Accessibility Services Coordinator at 432-837-8203 (please leave a message and we'll get back to you as soon as we can during working hours), or email mschwartze@sulross.edu . Our office is located on the first floor of Ferguson Hall, room 112, and our mailing address is P.O. Box C-122, Sul Ross State University, Alpine. Texas, 79832.

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

1) The student will be able to demonstrate content knowledge of basic mathematical principles.

2) The student will be proficient in logic, able to negate statements, provide counterexamples to false statements, and determine the validity of arguments.

3) The student will be able to communicate mathematical content clearly and with valid reasoning.

Program Marketable Skills:

Marketable Skill (MS) 1: Students Demonstrate Logical and Analytical Skills.

MS 2: Students Demonstrate Problem-Solving Using Analytic and Algebraic Methods.

MS 3: Students Use Technology in Problem-Solving and Presentation.

MS 4: Students Use Communication and Pedagogical Skills.

EC-6 Core Teacher Competencies:

Competency 001 (Mathematics Instruction) The teacher understands how students learn mathematical skills and uses that knowledge to plan, organize and implement instruction and assess learning.

Competency 002 (Number Concepts and Operation) The teacher understands concepts related to numbers, operations and algorithms and the properties of numbers.

Competency 003 (Patterns and Algebra) The teacher understands concepts related to patterns, relations, functions and algebraic reasoning.

Competency 004 (Geometry and Measurement) The teacher understands concepts and principles of geometry and measurement.

Competency 005 (Probability and Statistics) The teacher understands concepts related to probability and statistics and their applications.

Competency 006 (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.

Classroom Climate of Respect

Importantly, this class will foster free expression, critical investigation, and the open discussion of ideas. This means that all of us must help create and sustain an atmosphere of tolerance, civility, and respect for the viewpoints of others. Similarly, we must all learn how to probe, oppose and disagree without resorting to tactics of intimidation, harassment, or personal attack. No one is entitled to harass, belittle, or discriminate against another on the basis of race, religion, ethnicity, age, gender, national origin, or sexual preference. Still we will not be silenced by the difficulty of fruitfully discussing politically sensitive issues.

Important Dates

Wed, Jan. 18	First day of classes, first day of late registration
	and schedule changes
Tue, Jan. 24	Last day for late registration and schedule changes
Thu, Feb 2	Last Day to Drop a Class with No Academic Record,
	12th class day
Mon-Fri March 13-17	Spring Break Holidays, No Classes
Fri, April 7	Good Friday Holiday, No Classes
Fri, April 14	Last day to drop a class with a grade of “W”
	by 4 pm in University Registrar’s Office
Mon, April 17	Honors Convocation, 7 pm, Marshall Auditorium
Wed, May 10	Last Day of Class before Finals
Thu, May 11	Dead Day, No Classes
Fri, Mon-Wed: May 12, 15-17	Final Exams, End of Term

Tentative Class Schedule-Math 1314, Sec. 002 Spring 2023		
X = no class	Mon	Wed
Jan. 18	**X**	First Day of Class Sets of Real Numbers
Jan. 23, 25	Ordering rational numbers Polynomial Equations Radicals	Order of Operations Polynomials
Jan. 30, Feb. 1	Polynomial Arithmetic Linear Equations	Linear Equations Absolute Value Equations
Feb. 6, 8	Linear Functions	Linear Functions Parallel, Perpendicular Lines
Feb. 13, 15	Metric Conversion Irrational Numbers	Rational Exponents
Feb. 20, 22	Review Test 1	**Test 1**
Feb. 27, March 1	Rational Exponents	Solving inequalities Sets of Real Numbers Functions
Mar. 6, 8	Functions Multi-Part Functions	Factoring Polynomials Complex Numbers
Mar. 13-17	**Spring Break ----------->**	
Mar. 20, 22	Complex Numbers Quadratic Equations	Quadratic Equations
Mar. 27, 29	Quadratic Functions	Quadratic Functions
April. 3, 5	Review for Test 2	**Test 2**
April. 10, 12	Composition of Functions Inverse Functions	Inverse Functions Exponential Functions
April. 17, 19	Exponential Functions	Logarithmic Functions
April. 24, 26	Properties of Logs Exp, Log Equations	Exp, Log Equations
May. 1, 3	Applications of Exp, Log Functions	Applications of Parabolas
May. 8, 10	Applications of Parabolas Review for Test 3	Review for Test 3 Last Class Day
Tue, May 16	**Tue, May 16, Test 3 (Final Exam)** **Test 3: 3-5 p**	