

South Plains College
Common Course Syllabus: MATH 1314
Spring 2023

Department: Mathematics, Engineering, and Computer Science

Discipline: Mathematics

Course Number: MATH 1314

Course Title: College Algebra

Available Formats: conventional, hybrid, internet, and ITV

Campuses: Levelland, Plainview, Lubbock Downtown Center, and Dual Credit

Course Description: In-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Additional topics such as sequences, series, probability, and conics may be included.

Prerequisite: Minimum score of 350 on the TSIA1, minimum score of 950 on the TSIA2, a diagnostic score of 6 on the TSIA2, TSI-exempt status, a successful completion with a grade of 'C' or better in MATH 0320, or successful completion of NCBM-0114.

Credit: 3 **Lecture:** 3 **Lab:** 1

Supplies: Please see the instructor's course information sheet for specific supplies.

This course partially satisfies a Core Curriculum Requirement: Mathematics Foundational Component Area (020)

Core Curriculum Objectives addressed:

- **Communications skills**—to include effective written, oral and visual communication
- **Critical thinking skills**—to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
- **Empirical and quantitative competency skills**—to manipulate and analyze numerical data or observable facts resulting in informed conclusions

Student Learning Outcomes: Upon completion of this course and receiving a passing grade, the student will be able to:

1. Demonstrate and apply knowledge of properties of functions, including domain and range, operations, compositions, and inverses.
2. Recognize and apply polynomial, rational, radical, exponential and logarithmic functions and solve related equations.
3. Apply graphing techniques.
4. Evaluate all roots of higher degree polynomial and rational functions.
5. Recognize, solve and apply systems of linear equations using matrices.

Student Learning Outcomes Assessment: A pre- and post-test questions will be used to determine the extent of improvement that the students have gained during the semester

Course Evaluation: There will be departmental final exam questions given by all instructors.

Attendance/Student Engagement Policy: Attendance and engagement are the most critical activities for success in this course. The instructor maintains records of the student's attendance and submission of assignments throughout the semester. The student is expected to attend at least eighty percent (80%) of the **total** class meetings **and** submit at least eighty percent (80%) of the **total** class assignments to have the best chance of success. If the student fails to meet these minimum requirements, the instructor may remove the student from the class with an X, upon their discretion, to help the student from harming their GPA. If the student cannot receive an X, the instructor will assign an F.

Academic Integrity (Plagiarism and Cheating Policy): "Complete honesty is required of the student in the presentation of any and all phases of course work. This idea applies to quizzes of whatever length as well to final examinations, to daily reports, and to term papers." (*SPC General Catalog*)

Cheating violations include, but are not limited to, the following:

1. Obtaining an examination by stealing or collusion;
2. Discovering the content of an examination before it is given;
3. Using an unauthorized source of information (notes, textbook, text messaging, internet, apps) during an examination, quiz, or homework assignment;
4. Entering an office or building to obtain an unfair advantage;
5. Taking an examination for another;
6. Altering grade records;
7. Copying another's work during an examination or on a homework assignment;
8. Rewriting another student's work in Peer Editing so that the writing is no longer the original student's;
9. Taking pictures of a test, test answers, or someone else's paper.

It is the aim of the faculty of South Plains College to foster a spirit of complete honesty and a high standard of integrity. The attempt of any student to present as his or her own any work which he or she has not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offender liable to serious consequences, possibly suspension. (*SPC General Catalog*) Plagiarism and cheating are not tolerated in this course. Under the policies of South Plains College, punishment for cheating may include no credit (failing) on the assignment, quiz, exam, or the course.

Student Code of Conduct Policy: Any successful learning experience requires mutual respect from the student and the instructor. Neither the instructor nor the student should be subject to others' rude, disruptive, intimidating, aggressive, or demeaning behavior. Student conduct that disrupts the learning process or is deemed disrespectful or threatening shall not be tolerated and may lead to disciplinary action and/or removal from class.

Other Policies:

South Plains College policies concerning diversity, disabilities, non-discrimination, Title IX Pregnancy Accommodations, and Campus Concealed Carry Statements can be found here:

<https://www.southplainscollege.edu/syllabusstatements/>.

South Plains College policies, return to campus plan, and protocols regarding COVID-19 can be found here: <https://www.southplainscollege.edu/emergency/covid19-faq.php>.

Note: The instructor reserves the right to modify the course syllabus and policies, as well as notify students of any changes, at any point during the semester.

**Spring 2023
College Algebra**

Instructor	Traci Sanders	Math 1314.610	TR 9:00 – 10:45
Email	tsanders@southplainscollege.edu	Classroom	B011 Basement of Downtown Center
Phone	806-716-4616	Office	B021

Office Hours:

Monday	Tuesday	Wednesday	Thursday	Friday
8:30 – 11:00	12:45 – 2:15		12:45 – 2:15	8:30 – 11:00

Communication: You may email me at tsanders@southplainscollege.edu or email me through Blackboard. When you log into the course on Blackboard, there is a link to Send Email in the main menu on the left side. I will do my best to respond to your email within 24 hours. When I post an announcement in Blackboard, the announcement will also be sent to your SPC email address. Please check your SPC email daily!

SPC Tutors: Tutoring is FREE for all currently enrolled students. Make an appointment or drop-in for help at any SPC location or online! Visit the link below to learn more about how to book an appointment, view the tutoring schedule, and view tutoring locations.

<http://www.southplainscollege.edu/exploreprograms/artsandsciences/teacheredtutoring.php>

Tutor.com: You also have 180 FREE minutes of tutoring with Tutor.com each week, and your hours reset every Monday morning. Log into Blackboard, click on the tools option from the left-hand menu bar. Click on the Tutor.com link and you will automatically be logged in for free tutoring. You may access tutor.com tutors during the following times:

Monday – Thursday: 8pm-8am

6pm Friday – 8am Monday morning

Text: No textbook is required.

Required Materials: binder, notebook paper, pencils (please show your work in pencil), straightedge, scientific or graphing calculator (cell phones, smart watches, TI-89, TI-92, TI-Nspire calculators, or other electronic devices will not be allowed)

Blackboard: <https://southplainscollege.blackboard.com>

Blackboard is an online course management system that will be used in this course. For technical support, call 806-716-2180 or email blackboard@southplainscollege.edu.

Attendance: Your attendance is monitored through physical attendance and completion of assignments. If you must miss, please email me to find out what you need to do to stay caught up. **If you are absent for 6 classes or you miss 6 assignments, the instructor may withdraw you from the course with a grade of X.** If you wish to drop this class, you should submit a **Student Initiated Drop Form** online. Students will not be required to obtain an instructor signature to drop, however, students should communicate with instructors or advisors prior to dropping a course when they are able.

Before arriving for each class meeting (except the first meeting and test days), make certain you have:

1. Printed the notes. See the course calendar for which section of notes you need for each class. (I will print Section 1.1 for you.)
2. Completed as much as possible of the homework assignment from the previous class. Be prepared to ask questions over homework problems in which you had trouble.

Upon arriving at the class meeting (non-test days), we will:

1. Answer questions over the homework.
2. Take notes on the section listed on the course calendar. If we do not finish the notes in class, you will use the videos to finish the notes as home.
3. Work on the lab assignment.

Lesson Videos and Notes: There are videos and notes posted in Blackboard for each section. To find the videos and notes, click on the unit in the main menu and then the section. Print the notes, and bring the notes to class with you. You will fill in the notes in class as I am lecturing. **If you have to miss class, you may use the videos to fill in the notes.** On homework, labs, and tests, your work needs to follow the work as I have taught it. If your work comes from a math app rather than the notes I have given, you will not receive credit. Keep your notes organized, and always bring them to class. When you work on a lab in the classroom, you may use your notes as reference.

Homework: Homework assignments for each section are posted in Blackboard. Homework is located in the same Blackboard folder as the videos and notes. Homework should be completed neatly on notebook paper with work shown. The answers are given so that you can check your answers and make sure you are working the problems correctly. The homework will help you prepare for labs and tests! Homework will be turned in on test days. **You may earn one bonus point per homework assignment to be added to your test grade.** To get the bonus point for the assignment, it cannot be missing more than two problems, and the work must be shown as taught in class.

Labs: Approximately the last 30 minutes of class will be our lab time. **The lowest three lab grades will be dropped. There are no make-up labs.** Here are the two different types of labs we will have:

1. Work on homework. As long as you participate, you will receive a 100 for these labs.
2. Work a few problems to be turned in for a grade.

Tests: **There will be 4 tests and a comprehensive final exam.** There will be NO MAKEUP TESTS! Dates for all tests are given in the course calendar, so PLAN AHEAD! You will be allowed one 8.5" by 11" sheet of notes (front only) on the tests. You will not be allowed any electronic devices other than a calculator.

Grading Policy: Grades will be averaged according to the following percentages:

Lab Average	10%
Test Average	70%
Final Exam (covering Unit 5 & major topic from previous tests)	20%

There will be a category in the Blackboard gradebook titled Course Average. This is the number you should look at throughout the semester to see your current average in the course. Do not use the Total category to calculate your average. Blackboard automatically creates the Total category. You do not need to pay any attention to it.

Grading Scale:

A: 90 and above, B: 80 – 89, C: 70 – 79, D: 60 – 69, F: 59 or below

To maximize your potential for successfully completing this course:

- login to Blackboard daily;
- attend each class and ask for help when needed;
- engage your brain and take good notes during lecture;
- thoroughly complete notes, homework, and labs;
- practice the problems repeatedly until you have full mastery of them.

College Algebra Course Calendar
Spring 2023

This is a tentative schedule. Any changes will be announced in class and posted in Blackboard. Assignments that will be graded are highlighted in yellow.

Grading Policy: Lab Avg=10%, Test Average=70%, Final Exam=20%
The lowest three lab grades will be dropped. There are no make-up labs.

	Monday	Tuesday	Wednesday	Thursday	Friday
1	Jan 16 Martin Luther King, Jr Holiday	Jan 17 Section 1.1	Jan 18	Jan 19 Section 1.2 Lab 1	Jan 20
2	Jan 23	Jan 24 Section 1.3 Lab 2	Jan 25	Jan 26 Factoring Review Lab 3	Jan 27
3	Jan 30	Jan 31 Section 1.4 Lab 4	Feb 1	Feb 2 Section 1.5 Lab 5	Feb 3
4	Feb 6	Feb 7 Section 1.6 Lab 6	Feb 8	Feb 9 Test 1	Feb 10
5	Feb 13	Feb 14 Section 2.1 Lab 7	Feb 15	Feb 16 Section 2.2 Lab 8	Feb 17
6	Feb 20	Feb 21 Section 2.3 Lab 9	Feb 22	Feb 23 Sections 2.4 & 2.5 Lab 10	Feb 24
7	Feb 27	Feb 28 Section 2.6 Lab 11	Mar 1	Mar 2 Section 2.7 Lab 12	Mar 3

8	Mar 6	Mar 7 Test 2	Mar 8	Mar 9 Section 3.1 Lab 13	Mar 10
9	Mar 13 Spring Break	Mar 14 Spring Break	Mar 15 Spring Break	Mar 16 Spring Break	Mar 17 Spring Break
10	Mar 20	Mar 21 Section 3.2 Lab 14	Mar 22	Mar 23 Section 3.3 Lab 15	Mar 24
11	Mar 27	Mar 28 Section 3.4 Lab 16	Mar 29	Mar 30 Section 3.5 Lab 17	Mar 31
12	Apr 3	Apr 4 Test 3	Apr 5	Apr 6 Section 4.1 Lab 18	Apr 7 Easter Break
13	Apr 10 Online Registration Opens	Apr 11 Section 4.2 Lab 19	Apr 12	Apr 13 Section 4.3 Lab 20	Apr 14
14	Apr 17	Apr 18 Section 4.4 Lab 21	Apr 19	Apr 20 Test 4	Apr 21
15	Apr 24	Apr 25 Section 5.1 Lab 22	Apr 26	Apr 27 Section 5.3 Lab 23 Last Day to Drop	Apr 28
16	May 1	May 2 Section 5.4 Lab 24	May 3	May 4 Review	May 5

17	May 8	May 9 Final Exam 8:00 – 10:00 (Units 1 – 5)	May 10	May 11	

Section Titles

- 1.1 Linear & Absolute Value Equations
- 1.2 Linear Inequalities
- 1.3 Complex Numbers & Simplifying Radical Expressions
- Factoring Review
- 1.4 Quadratic Equations: Factoring & Square Root Property
- 1.5 Quadratic Formula: Complete the Square & Quadratic Formula
- 1.6 Rational Equations & Radical Equations

- 2.1 Distance, Midpoint, & Circles
- 2.2 Basics of Functions & Analyzing Graphs
- 2.3 Evaluating Functions & Symmetry
- 2.4 Increasing, Decreasing, & Piecewise Functions
- 2.5 Graphs & Transformations
- 2.6 Functions: Operations & Composition
- 2.7 Functions: Composition & Inverses

- 3.1 Linear Functions: Slope, Graph, Parallel, & Perpendicular
- 3.2 Graph Quadratic Functions
- 3.3 Synthetic Division & Polynomial Equations
- 3.4 Graph Polynomial Functions
- 3.5 Graph Rational Functions

- 4.1 Polynomial & Rational Inequalities
- 4.2 Exponential & Log Functions: Basics & Graphs
- 4.3 Properties of Logs
- 4.4 Exponential & Log Equations

- 5.1 Solve Systems in Two Variables & Three Variables
- 5.2 Nonlinear Systems
- 5.3 Solve Systems Using Matrices
- 5.4 Solve Systems Using Cramer's Rule