

South Plains College
Common Course Syllabus: MATH 1314
Fall 2024

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. 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*) Plagiarism violations include, but are not limited to, the following:

1. Turning in a paper that has been purchased, borrowed, or downloaded from another student, an online term paper site, or a mail-order term paper mill;
2. Cutting and pasting together information from books, articles, other papers, or online sites without providing proper documentation;
3. Using direct quotations (three or more words) from a source without showing them to be direct quotations and citing them; or
4. Missing in-text citations.

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:

For information regarding official South Plains College statements about intellectual exchange, disabilities, non-discrimination, Title IX Pregnancy Accommodations, CARE Team, and Campus Concealed Carry, please visit <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.

College Algebra: Math 1314.608 & Math 1314.654
Fall 2024

Instructor	Traci Sanders	Time	MW 9:00 – 10:45
Email	tsanders@southplainscollege.edu	Classroom	B009 Basement of Downtown Center
Phone	806-716-4616	Office	B021

Office Hours:

Monday	Tuesday	Wednesday	Thursday	Friday
10:45 – 11:30	10:45 – 11:00 12:45 – 2:30	10:45 – 11:30	10:45 – 11:00 12:45 – 2:30	8:30 – 11:00

Email Correspondence: All email correspondence should come from your SPC email address. If you need help with your SPC email, you can call the Help Desk at 806-716-2600. Please give me up to 24 hours to respond via email. If you email about a specific math question, please attach a picture of the question and the work that you have tried. 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.

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

Brainfuse Live Tutoring: Log into the course in Blackboard. Find Books & Tools in the left menu bar. Click on view course and institution tools. In the pop-up box, scroll down until you see Brainfuse Live Tutoring. You may access Brainfuse 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

If you use a graphing calculator, it cannot be a TI-89 or TI-Nspire.

If you do not already have a calculator, I recommend the TI-30XIIS scientific calculator.

Phone / tablet / laptop / smart watch calculators will not be allowed.

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

Blackboard Ultra is the online course management system that we will use for this course. For technical support, call 806-716-2180 or email blackboard@southplainscollege.edu.

Attendance: Course attendance will be taken. Per South Plains College math department policy, you may be administratively dropped from the course if your number of missed assignments or your number of missed classes goes over 20% of all assignments or classes. If you wish to drop this class, you should submit a [Student Initiated Drop Form](#) online. If possible, talk to your instructor first.

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 at 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 under Course Content and then the folder for the section on which you are working. 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 folder as the videos and notes. Homework should be completed neatly on notebook paper with work shown. The answers are given. Carefully check all of your answers immediately after completing the problems. Figure out what you did wrong if you missed a problem. This is one of the best ways to learn math! If you can't figure it out, circle the problem, and ask about it during class. 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 the videos and in class.

Labs: Approximately the last 30 minutes of class will be our lab time. The lowest three lab grades will be dropped. If you miss a lab, that lab grade will be a 0. There will not be any make-up or late 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 on an in-class assignment that will be turned in and graded. You will be able to use your notes and homework as reference.

Tests: There will be 4 tests and a comprehensive final exam. If for any reason you are going to miss a test, you must contact me PRIOR to the date of the test and arrange to take the test early. 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.

Showing Work: To receive full credit on labs and tests, you must show all work that leads to your answers. The work must be legible, make sense and be easy to follow.

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

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

In the Blackboard gradebook, your course average will be called "Current Grade." This is the number you should look at throughout the semester to see your current average in the course.

Grading Scale:

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

Academic Dishonesty:

Academic dishonesty will not be tolerated. Please see the list of things that constitute plagiarism and cheating in the general syllabus. If you violate anything on those lists, you will receive a zero on the assignment and could be subject to other actions outlined in the South Plains College Student Code of Conduct. Please note that these actions could include failing the course and being expelled from the college.

To maximize your potential for successfully completing this course:

- Get in the habit of thinking and saying positive things about math every time you work on it. Your brain will learn much easier that way.
- Do math every weekday, even if it's just a little.
- Remind yourself often of the math you have learned by looking back over your notes.
- Come to class on time and prepared to learn.
- Ask for help when needed.
- Print the notes. Engage your brain and take good notes during lecture.
- Thoroughly complete notes, homework, labs, and tests.
- Practice the problems repeatedly until you have full mastery of them.

College Algebra Course Calendar
Fall 2024

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 Avg=70%, Final Exam=20%
The lowest three lab grades will be dropped. There are no make-up or late labs.

	Monday	Tuesday	Wednesday	Thursday	Friday
1	Aug 26 Section 1.1	Aug 27	Aug 28 Section 1.2 Lab 1	Aug 29	Aug 30 Factoring Review
2	Sept 2 Labor Day Holiday	Sept 3	Sept 4 Section 1.3 Lab 2	Sept 5	Sept 6 Factoring Review
3	Sept 9 Section 1.4 Lab 3	Sept 10	Sept 11 Section 1.5 Lab 4	Sept 12	Sept 13
4	Sept 16 Section 1.6 Lab 5	Sept 7	Sept 18 Section 2.2 & Review Lab 6	Sept 19	Sept 20
5	Sept 23 Test 1	Sept 24	Sept 25 Section 2.3 Lab 7	Sept 26	Sept 27
6	Sept 30 Sections 2.4 & 2.5 Lab 8	Oct 1	Oct 2 Section 2.6 Lab 9	Oct 3	Oct 4
7	Oct 7 Section 2.7 Lab 10	Oct 8	Oct 9 Section 3.1 & Review Lab 11	Oct 10	Oct 11

8	Oct 14 Test 2	Oct 15	Oct 16 Section 3.2 Lab 12	Oct 17	Oct 18 Fall Break
9	Oct 21 Section 3.3 Lab 13	Oct 22	Oct 23 Section 3.4 Lab 14	Oct 24	Oct 25
10	Oct 28 Section 3.5 Lab 15	Oct 29	Oct 30 Section 4.1 & Review Lab 16	Oct 31	Nov 1
11	Nov 4 Test 3	Nov 5	Nov 6 Section 4.2 Lab 17	Nov 7	Nov 8 Online Registration Opens
12	Nov 11 Section 4.3 Lab 18	Nov 12	Nov 13 Section 4.4 Lab 19	Nov 14	Nov 15
13	Nov 18 Section 5.1 & Review Lab 20	Nov 19	Nov 20 Test 4	Nov 21	Nov 22
14	Nov 25 Section 5.3 Lab 21	Nov 26	Nov 27 Thanksgiving Break	Nov 28 Thanksgiving Break	Nov 29 Thanksgiving Break
15	Dec 2 Section 5.4 Lab 22	Dec 3	Dec 4 Review Last Day to Drop	Dec 5	Dec 6
16	Dec 9 Final Exam 8:00 – 10:00 (Units 1 – 5)	Dec 10	Dec 11	Dec 12	

Section Titles

Unit 1: Solving Equations & Inequalities

- 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

Unit 2: Functions

- 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

Unit 3: Graphing Functions; Solving Polynomial Equations

- 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

Unit 4: Inequalities; Exponential & Log Functions

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

Unit 5: Systems of 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