Course Syllabus: College Algebra (MATH 1314 - 613)

Spring 2026

Department: Mathematics, engineering, and Computer Science

Discipline: Mathematics

Course Number: MATH 1314

Section: 613 (Tuesdays and Thursdays, 5:20PM – 6:55 PM, Mathematics-Engineering building, room B033)

Course Title: College Algebra

Available Formats: conventional/flex, internet, and ITV. This class will be the conventional/flex format

Campuses: Levelland, Downtown Center, Plainview Center, and Dual Credit. This class meets face-to-face on the Levelland campus in the mathematics-Engineering building, room B033.

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 (Intermediate Algebra), or successful completion of NCBM 0114.

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

Instructor: Nuwanthika Karunathilaka
Telephone: (806) 702-2470
Office: Math and Engineering building, B033.

Email: The instructor may be emailed through Blackboard or at ekarunathilaka@southplainscollege.edu.

Email Policy: All students at South Plains College are assigned a standardized SPC e-mail account. Although personal email addresses will continue to be collected, the assigned SPC e-mail account will be used as the official channel of communication for South Plains College. The Student Correspondence Policy can be found at www.southplainscollege.edu. To access the SPC student e-mail account, log in to portal.office.com. (Copied from SPC Student Guide) Since all students have an assigned SPC email, the instructor will only acknowledge, respond, and send emails to your assigned SPC email. This ensures all correspondence from the instructor is received by the intended recipient.

Face-to-Face Office Hours:
Tuesdays and Thursdays, 4.50PM – 5.20PM, 7.00PM – 7.30PM.

Textbook: A textbook is not required for this course; however, a recommended and freely available textbook for this course may be: College Algebra from OpenStax, Print ISBN 1938168380, Digital ISBN 1947172123, www.openstax.org/details/college-algebra.

Supplies: Besides pencils (please show your work in pencil) and paper, you will need a scientific calculator and a small supply of graph paper. Calculators on cell phones, TI-89, TI-92, or TI-Inspire calculators, or any other electronic devices will not be allowed during testing without permission from the instructor. Make certain you have access to a scanner or scanning app. Gradescope is the recommended app.

Blackboard: Blackboard is the online course management system that will be utilized for this course. This course is supplemented online, so all access to course information, and your instructor is through the Internet. This course syllabus, as well as all course materials can be accessed through Blackboard. Login at https://southplainscollege.blackboard.com/. The user name and password should be the same as the MySPC and SPC email.

User name: first initial, last name, and last 4 digits of the Student ID
Password: Original CampusConnect Pin No. (found on SPC acceptance letter)

Questions regarding Blackboard support may be emailed to blackboard@southplainscollege.edu or by telephone to 806-716-2180.

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: Pre- and post-test questions (assignments, quizzes, and major exams) 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. Assignments contribute 15% to the final grade, regular exams contribute 60%, and the final exam contributes 25%. 5 bonus points for quizzes. Expect 24 assignments, approximately 4 quizzes, and 4 scheduled exams throughout the course. Your final average in the course will determine the letter grade posted on your transcript. This grade is determined by the following scale: A (90-100%), B (80-89%), C (70-79%), D (60-69%), F (0-59%).

- Exam 1 (covering Assignments 1-6) = 15%
- Exam 2 (covering Assignments 7-11) = 15%
- Exam 3 (covering Assignments 12-18) = 15%
- Exam 4 (covering Assignments 19-24) = 15%.
- Final Exam (Covering all the Assignments) = 25%
- Assignments (24 assignments) = 15%
- Quizzes (4 quizzes and can earn bonus points) = 5 points

Assignments and Exams: The following is a sequential list of the assignments and exams.

Exam 1 (20%): Equations and Inequalities

1.1 Linear and Rational Equations
1.2 Models and Applications
1.3 Complex Numbers
1.4 Quadratic Equations
1.5 Other types of Equations
1.6 Linear Inequalities and Absolute Value Inequalities

Exam 2 (20%): Functions and Graphs

2.1 Basics of Functions and their Graphs
2.2 Linear Functions and Slope
2.2 Combinations of Functions; Composite functions
2.3 Inverse Functions
2.4 Distance and Midpoint Formulas; Circles

Exam 3 (20%): Polynomial, rational, Exponential and Logarithmic Functions

3.1 Quadratic Functions
3.2 Polynomial Functions and their Graphs
3.3 Polynomials and Rational Inequalities
3.4 Exponential Functions
3.5 Logarithmic Functions
3.6 Properties of Logarithmic
3.7 Exponential and Logarithmic Equations

Exam 4 (20%): Systems of Equations, Matrices, and Algebraic Methods

4.1 2x2 and 3x3 Linear Systems
4.2 Matrix Solutions to Systems
4.3 Partial Fractions
4.4 Nonlinear Systems and Systems of Inequalities
4.5 Determinants and Cramer's Rule
4.6 The Binomial Theorem

Assignment Format and Policy: Assignments are given after each lesson and are collected according to the calendar below. There are four in class quizzes scheduled for the semester, as outlined in the calendar below. For each question on each assignment:

- Write the question number.
- In solving the problem, show all necessary work.
- Clearly mark your answer.
- Check your answers in Blackboard to make certain you are practicing the exercises correctly.
- Write your name at the top of each page of your work.
- Submit the assignment in Blackboard as a single pdf file using the Gradescope app.

Make certain to complete and submit assignments on time (or early). Early submissions are welcomed! Late assignments will be accepted for valid reasons.

Quiz Format and Policy: A face-to-face quiz will be administered according to the calendar below. No late quizzes will be accepted, as quizzes must be taken during class time. These quizzes provide an opportunity to earn bonus points.

Exam Format and Policy: There are four (4) units of study in this course. At the conclusion of each unit is a face-to-face examination on specified Thursdays in the calendar below from 5.20PM – 6.55PM with the exception of the final exam, which is on Tuesday, May 5 from 5:00 p.m. - 7:00 p.m.
To maximize your potential for successfully completing this course:
• login to Blackboard daily;
• Review the lecture notes;
• thoroughly complete and submit the assignments on time;
• practice the exercises repeatedly until you have full mastery of them.

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.

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

For questions regarding tutoring, please email tutoring@southplainscollege.edu or call 806-716-2538.

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 on the part of the student and the instructor. Neither instructor nor student should be subject to others' behavior that is rude, disruptive, intimidating, aggressive, or demeaning**.** 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.

COVID Response: South Plains College policies, return to campus plan, and protocols regarding COVID-19 can be found here: COVID Response (southplainscollege.edu).

Diversity, disabilities, non-discrimination, Title IX Pregnancy Accommodations, Campus Concealed Carry: South Plains College policies concerning diversity, disabilities, non-discrimination, Title IX Pregnancy Accommodations, and Campus Concealed Carry Statements can be found here: Syllabus Statements (southplainscollege.edu).

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.

Tentative Course Calendar: Below is a calendar view of assignment and exam due dates and times.

Date	Topic	Assignment Due Dates (Assignments and notes are due by noon on corresponding Wednesdays and Fridays)
Week 1: Jan 12 - 16	Course Introduction 1.1 Linear and Rational Equations	No assignments
Week 2: Jan 19 - 23	1.2 Models and Applications 1.3 Complex numbers	Assignment 1.1 & 1.2
Week 3: Jan 26 - 30	1.4 Quadratic Equations 1.5 Other types of Equations	Assignment 1.3 & 1.4
Week 4: Feb 2 - 6	1.6 Linear Inequalities and Absolute Value Inequalities 2.1 Basics of Functions and their Graphs	In Class Quiz 1 (Tue, Feb 3) Assignment 1.5 & 1.6
Week 5: Feb 9 - 13	2.2 Linear Functions and Slope Exam 1 (Thur, Feb12)	Assignment 2.1
Week 6: Feb 16 -20	2.3 Combinations of Functions; Composite functions 2.4 Inverse Functions	Assignment 2.2 & 2.3
Week 7: Feb 23 - 27	2.5 Distance and Midpoint Formulas; Circles 3.1 Quadratic Functions	In Class Quiz 2 (Tue, Feb 24) Assignment 2.4 & 2.5
Week 8: Mar 2 – 6	3.2 Polynomial Functions and their Graphs Exam 2 (Thur, Mar 5)	Assignment 3.1
Week 9: Mar 9 – 13	3.3 Polynomials and Rational Inequalities 3.4 Exponential Functions	Assignment 3.2 & 3.3
Week 10: Mar 16 – 20	Spring Break	Spring Break
Week 11: Mar 23 – 27	3.5 Logarithmic Functions 3.6 Properties of Logarithmic	Assignment 3.4 & 3.5
Week 12: Mar 30 – Apr 3	3.7 Exponential and Logarithmic Equations 4.1 2x2 and 3x3 Linear Systems	In Class Quiz 3 (Tue, Mar 31) Assignment 3.6 &3.7
Week 13: Apr 6 – 10	4.2 Matrix Solutions to Systems Exam 3 (Thur, Apr 9)	Assignment 4.1
Week 14: Apr 13 – 17	4.3 Partial Fractions 4.4 Nonlinear Systems and Systems of Inequalities	Assignment 4.2 & 4.3
Week 15: Apr 20 – 24	4.5 Determinants and Cramer's Rule 4.6 The Binomial Theorem	In Class Quiz 4 (Tue, Apr 21) Assignment 4.4, 4.5 & 4.6
Week 16: Apr 27 – May 1	Final Exam Review Discussion Exam 4 (Thur, Apr 30)	Final exam Review Discussion (Tue)
Week 17: May 4 - 7	Final Exam (Tue, May 5)	