

South Plains College
Common Course Syllabus: MATH 1314
Revised December 2019

Department: Mathematics, Engineering, and Computer Science

Discipline: Mathematics

Course Number: MATH 1314

Course Title: College Algebra

Available Formats: conventional, internet, and ITV

Campuses: Levelland, Reese, Plainview, Lubbock 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 TSIA, TSI-exempt status, or a successful completion with a grade of 'C' or better in MATH 0320.

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

Textbook/ Supplies: Please see the instructor's course information sheet.

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 Policy: Attendance and effort are the most important activities for success in this course. Records of your attendance are maintained throughout the semester. Five (5) absences, **for any reason**, are allotted to the student for the semester. Tardies count as one-half (1/2) of an absence. Tardies will be applied for consistently being late to class, as deemed by the instructor and leaving class early. If this number is exceeded, the instructor has the right to drop you with a grade of F or an X, depending on their discretion.

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.

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.

Diversity Statement: In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world and about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

Disability Statement: Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office at Levelland (Student Health & Wellness Office) 806-716-2577, Reese Center (Building 8) 806-716-4675, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.

Nondiscrimination Policy: South Plains College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Vice President for Student

Affairs, South Plains College, 1401 College Avenue, Box 5, Levelland, TX 79336. Phone number 806-716-2360.

Title IX Pregnancy Accommodations Statement: If you are pregnant, or have given birth within six months, Under Title IX you have a right to reasonable accommodations to help continue your education. To [activate](#) accommodations you must submit a Title IX pregnancy accommodations request, along with specific medical documentation, to the Director of Health and Wellness. Once approved, notification will be sent to the student and instructors. It is the student's responsibility to work with the instructor to arrange accommodations. Contact the Director of Health and Wellness at 806-716-2362 or [email cgilster@southplainscollege.edu](mailto:cgilster@southplainscollege.edu) for assistance.

Campus Concealed Carry: Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations and Frequently Asked Questions, please refer to the Campus Carry page at: <http://www.southplainscollege.edu/campuscarry.php>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 9-1-1.

SPC Bookstore Price Match Guarantee Policy: If you find a lower price on a textbook, the South Plains College bookstore will match that price. The difference will be given to the student on a bookstore gift certificate! The gift certificate can be spent on anything in the store.

If students have already purchased textbooks and then find a better price later, the South Plains College bookstore will price match through the first week of the semester. The student must have a copy of the receipt and the book has to be in stock at the competition at the time of the price match.

The South Plains College bookstore will happily price match BN.com & books on Amazon noted as *ships from and sold by Amazon.com*. Online marketplaces such as *Other Sellers* on Amazon, Amazon's Warehouse Deals, *fulfilled by Amazon*, BN.com Marketplace, and peer-to-peer pricing are not eligible. They will price match the exact textbook, in the same edition and format, including all accompanying materials, like workbooks and CDs.

A textbook is only eligible for price match if it is in stock on a competitor's website at time of the price match request. Additional membership discounts and offers cannot be applied to the student's refund.

Price matching is only available on in-store purchases. Digital books, access codes sold via publisher sites, rentals and special orders are not eligible. Only one price match per title per customer is allowed.

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 Schedule

Week	Monday	Tuesday	Wednesday	Thursday
1	Jan 13 Syllabus Intro to Knewton Test	January 14 0314.1 Order of Operations and Simplifying Expressions 0314.2 Introduction to Integers and Absolute Value	Jan 15 0314.3 Adding and Subtracting Integers 0314.4 Multiplying and Dividing Integers 0314.5 Simplifying Fractions	January 16 0314.6 Multiplying and Dividing Fractions 0314.7 Adding and Subtracting Fractions
2	Jan 20 MLK Holiday	January 21 0314.8 The Distributive Property 0314.9 Solve Equations with the Subtraction and Addition Properties 0314.10 Application Problems and the Subtraction and Addition Properties of Equality	Jan 22 0314.11 Solve Equations with the Division and Multiplication Properties 0314.12 Application Problems and the Division and Multiplication Properties of Equality 1.1 Solve Linear Equations in One Variable	January 23 1.2 Distance, Rate, and Time and Literal Equations 1.3 Word Problems with Linear Equations
3	Jan 27 0314.13 Inequalities, the Number Line, and Interval Notation	January 28 Exam 1	Jan 29 1.4 Absolute Value Equations and Inequalities 1.5 Interval Notation and Inequalities	January 30 0314.14 Reading Graphs and the Rectangular Coordinate System 0314.15 Graphing Linear Equations 2.1 Cartesian Coordinates and Distances
4	Feb 3 0314.16 Intercepts on the Coordinate Plane 0314.17 Understanding Slope 0314.18 The Slope Formula	February 4 0314.19 Slope-Intercept Form 2.2 Identify Slopes and Intercepts 2.3 Find Linear Equations	Feb 5 2.4 Interpretations of Linear Functions 0314.20 Parallel and Perpendicular Lines	February 6 2.5 Parallel and Perpendicular Lines 0314.21 Order of Operations and Simplifying Expressions
5	Feb 10 0314.22 Adding and Subtracting Polynomials 0314.23 Multiplying Polynomials	February 11 Exam 2	Feb 12 0314.24 The Greatest Common Factor and Factoring by Grouping 0314.25 Factoring Trinomials with a Leading Coefficient of 1	February 13 0314.26 Factoring Trinomials with a Leading Coefficient Other than 1 0314.27 Factoring Special Products
6	Feb 17 0314.28 Square Roots and the Real Number System 0314.29 Simplifying Square Roots and the Real Number System	February 18 2.6 Basics of Complex Numbers 2.7 Operations on Complex Numbers	Feb 19 2.8 Solve Quadratic Equations by Factoring 2.9 Complete the Square	February 20 2.10 Quadratic Formula 0314.30 Domain of Rational Expressions and Simplifying Rational Expressions
7	Feb 24 0314.31 Multiplying and Dividing Rational Expressions 0314.32 Adding and	February 25 0314.33 Adding and Subtracting Rational Expressions with Unlike Denominators	Feb 26 Exam 3	February 27 2.11 Solve Rational Equations

	Subtracting Rational Expressions with a Common Denominator			
8	March 2 2.12 Solve Radical Equations 0314.34 Solving One-Step Linear Inequalities	March 3 2.13 Rational and Quadratic Inequalities 3.1 Relations and Functions	March 4 3.2 Domain and Range of Functions 3.3 Function Notation	March 5 3.4 Piecewise Functions 3.5 Graphical Properties of Functions
9	March 9 3.6 Combinations of Functions 3.7 Evaluate Composite Functions	March 10 3.8 Properties of Composite Functions 3.9 Even and Odd Functions	March 11 3.10 Inverse Function Values 3.11 Find Inverse Functions	March 12 Exam 4
	March 16	Spring Break	Spring Break	March 19
10	March 23 3.12 Factoring Equations Quadratic in Form 3.13 Symmetry Transformations of Functions	March 24 0314.35 Parabolas and Their Properties 4.1 Characteristics of Parabolas	March 25 4.2 Applications of Quadratic Functions 4.3 Graphing Quadratic Equations	March 26 4.4 Synthetic Division and Remainder Theorem 4.5 Rational Zeros of Polynomials
11	March 30 4.6 Local Behavior of Polynomial Functions 0314.36 Domain of Rational Expressions and Simplifying Rational Expressions	March 31 4.7 Asymptotic Behavior of Rational Functions 4.8 Graphs and Applications of Rational Functions	April 1 Exam 5	April 2 4.9 Graphs of Circles 0314.37 Product Properties of Exponents
12	April 6 0314.38 Quotient Properties of Exponents and Dividing Monomials 5.1 Evaluate and Write Exponential Functions	April 7 5.2 Applications of Exponential Functions and Base e 5.3 Exponential Function Graphs	April 8 5.4 Relate Logarithms and Exponents 5.5 Evaluate Logarithmic Expressions	April 9 5.6 Logarithmic Function Graphs 5.7 Basic Properties of Logarithms
13	April 13 No Class	April 14 5.8 Rewrite Logarithmic Expressions Using Properties	April 15 Exam 6	April 16 5.9 Solve Exponential Equations 5.10 Solve Logarithmic Equations
14	April 20 5.11 Applications of Exponential and Logarithmic Functions	April 21 6.1 Solving Systems of Linear Equations 6.2 Linear Inequalities in Two Variables	April 22 6.3 Systems of Linear Equations in Three Variables 6.4 Systems of Two Nonlinear Equations	April 23 6.5 Graphing Nonlinear Inequalities and Systems of Inequalities
15	April 27 Exam 7	April 28 7.1 Finding Determinants	April 29 7.2 Matrices and Gaussian Elimination 7.3 Solving Systems with Cramer's Rule	April 30 Review
16	May 4 Final Exam 10:15 – 12:15			