

South Plains College – Mathematics Department  
**College Algebra – MATH 1314 – 501**  
Course Syllabus – FALL 2019

**Instructor:** Tom Johnson  
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**Office Hours:** Please make an appointment

**Course Description:** College Algebra (MATH 1314) is the study and application of common algebraic functions, including polynomial, exponential, logarithmic, and rational problems are addressed. Matrices and systems of equations & inequalities are also addressed. A grade of C (or better) is required from MATH 0314, MATH 0324, or MATH 0320. (3:3:1).

**Textbook:** The textbook needed for this course: (Online version through Pearson Education)  
Beecher, J.; Penna, J.; Johnson, B.; Bittinger, M. (2017). College Algebra with Intermediate Algebra, a Blended Course. Boston: Pearson. ISBN 0134555260.

**Attendance:** Attendance and effort are the most important activities for success in this course. Class attendance may be taken at any time during the class period, so please do not be late or leave early. You may be dropped from this course with a grade of X or F if you are absent five (5) consecutive classes or if you exceed six (6) absences throughout the semester.

**Student Learning Outcomes/Competencies\*:**

Upon completion of MATH 1314 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.
6. Solve inequalities.

**Course Objectives:** Successful completion of this course should reflect mastery of the preceding competencies.

**Core Objectives:**

*Communication Skills:* Effective development, interpretation, and expression of ideas through written, oral, and visual communication.

*Critical Thinking:* Creative thinking, innovation, inquiry, analysis, evaluation, and synthesis of information.

*Empirical and Quantitative Competency Skills:* The manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

**Assignments & Grading:** Homework assignments will be made at each class meeting. Please make certain all materials accompany you to each class meeting. Daily work (homework) will count for 40%, unit tests count for 40%, and the Final Exam will count for 20% of the Final Grade. Your final average in the course will determine the letter grade posted on your transcript. This grade is determined by the following scale:

For MATH 1314 – A (90-100%), B (80-89%), C (70-79%), D (60-69%), F (0-59%).

**Supplies:** You will need a TI 83+ or TI 84+ graphing calculator\*, graph paper, and a 3-ring binder.

*\*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.*

**Supplementary Course Information:** Blackboard is the online course management system that will be utilized for this course. This course syllabus, as well as any class handouts can be accessed through Blackboard. Login at <http://spc.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)

**Student Conduct:** The Student “Code of Conduct” will be followed in this course. You are expected to be respectful to others in the classroom. Please SILENCE phones before entering class and assist in maintaining a classroom environment conducive to learning. Any student disrupting the learning environment will be asked to leave and may be dropped from the course.

**Disability:** Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request ADA Sec. 504 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. For more information, call or visit the Disability Services Office in the Student Health & Wellness Office, 806-716-2577.

**Equal Opportunity:** South Plains College strives to accommodate the individual needs of all students in order to enhance their opportunities for success in the context of a comprehensive community college setting. It is the policy of South Plains College to offer all educational and employment opportunities without regard to race, color, national origin, religion, gender, disability or age.

**Diversity:** 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.

**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, please refer to the SPC policy at: [http://www.southplainscollege.edu/human\\_resources/policy\\_procedure/hhc.php](http://www.southplainscollege.edu/human_resources/policy_procedure/hhc.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.

M, W Classes – MATH 1314 Assignments and Tests Schedule – SPRING 2020 – Mr. Johnson

Week #	Mo	Day	Lesson / Tentative Assignment
1	01	13	2.1 Graphs of Equations; 2.2 Functions & Graphs
1		15	2.3 Finding Domain & Range; 2.4 The Algebra of Functions
2		22	2.5 Linear Functions: Graphs & Slope; 2.6 More on Graphing Linear Equations; 2.7 Finding Equations of Lines
2		27	TEST #1
3		29	4.4 & 4.5 Factoring Trinomials; 4.6 Factoring Special Trinomials
3	02	03	5.4 Complex Rational Expressions; 5.5 Solving Rational Equations
4		05	6.1 Radical Expressions & Functions; 6.2 Rational Numbers as Exponents
4		10	6.5 Division of Radical Expressions; 6.6 Solving Radical Equations; 6.8 Piecewise Functions
5		12	TEST #2
5		17	7.1 Symmetry; 7.2 Transformations
6		19	7.3 The Complex Numbers; 7.4 Quadratic Equations, Functions, Zeros, & Models; 7.5 Analyzing Quadratic Functions
6		24	8.1 Polynomial Functions & Models; 8.2 Graphing polynomial Functions
7		26	8.3 Polynomial Division; Remainder Theorem; Factor Theorem
7	03	02	8.4 Zeros of Polynomial Functions; 8.5 Rational Polynomial Functions
8		04	8.6 Polynomial and Rational Inequalities
8		09	TEST #3
9		11	9.1 Composite Functions; 9.2 Inverse Functions
9		23	9.3 Exponential Functions & Their Graphs
10		25	9.4 Logarithmic Functions & Graphs
10		30	9.5 Properties of Logarithmic Functions; 9.6 Solving Exponential & Logarithmic Equations
11	04	01	9.7 Applications: Growth & Decay; Compound Interest
11		06	TEST #4
12		08	Systems of Equations in 2&3 Variables: 3.2 Solving by Substitution; 3.3 Solving by Elimination; 3.5 Systems of Equations in 3 Variables
12		15	10.1 Matrices & System of Equations; 10.2 Matrix Operations
13		20	10.4 Determinants & Cramer's Rule; TI83+, TI84+ method
14		22	12.1 Sequences & Series; 12.2 Arithmetic Sequences & Series; 12.3 Geometric Sequences & Series
15		27	12.7 Binomial Theorem
15		29	REVIEW for FINAL EXAM
FINALS	05	04-07	FINAL EXAM WEEK