

MATH 0314 (3:3:1)

Support Course

MATH 1314 (3:3:1)

College Algebra

MATHEMATICS DEPARTMENT

Division of Arts & Sciences

South Plains College
Reese Center

Spring 2019

Jacque Fowler & Traci Sanders

Spring 2019
Support Course: Math 0314.C04 & Math 0314.C05
College Algebra: Math 1314.C04 & Math 1314.C05

Classroom: RC 219

Time: Section C04: MTWR 8:30 – 10:15
 Section C05: MTWR 11:00 – 12:45

Instructors	Jacque Fowler	Traci Sanders
E-mail	jfowler@southplainscollege.edu	tsanders@southplainscollege.edu
Phone	716-4640	716-4616
Office	RC 223-E	RC 223-C

Fowler Office Hours:

Monday	Tuesday	Wednesday	Thursday	Friday
8:00 – 8:30 10:15 – 11:00	8:00 – 11:00			

Sanders Office Hours:

Monday	Tuesday	Wednesday	Thursday	Friday
10:15 – 11:00	10:15 – 11:00 12:45 – 1:45	10:15 – 11:00	10:15 – 11:00 12:45 – 1:45	8:00 – 11:00

Course Description: The Support Course (Math 0314) portion of the course will include the study of signed numbers, order of operations, polynomials, relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, rational), with a special emphasis on linear and quadratic expressions and equations. The College Algebra (Math 1314) portion of the course will include in-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions and systems of equations using matrices.

Text: No textbook is required.

Supplies: notebook paper (to be turned in without spiral edges), scientific or graphing calculator (cell phones, smart watches, TI-89, TI-92, TI-Nspire calculators, or other electronic devices will not be allowed during testing), pencils, straightedge

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

Lab Average	10%
Test Average	70%
Final Exam	20%

Grading Scale:

- A: 90 and above
- B: 80 – 89
- C: 70 – 79
- D: 65 – 69
- F: 64 or below

A grade of E (great effort but not successful completion) may be given in Math 0314 at the discretion of the instructors.

Tests: There will be 7 tests and a final exam. Test 3 and the final will be comprehensive. There will be **NO MAKEUP TESTS!** Dates are listed for all tests, including the final exam, so **PLAN AHEAD!** On test days, students will be required to leave backpacks, cell phones, smart watches, etc. at the front of the room.

Homework: Homework will be assigned for all of the sections covered in the course. For most weeks, the homework will be due on Mondays. Any change to the Monday deadlines will be announced in class. For each completed homework assignment, one point will be added to that test grade. Time will be given during class to answer questions on the homework.

Labs: Excluding test days, approximately the last 30 minutes of class will be our lab time. The lowest five lab grades will be dropped. **THERE ARE NO MAKEUP 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. If you are absent, you will receive a zero.
2. Work a few problems to be turned in for a grade. If you are absent, you will receive a zero.

Attendance: Attendance and effort are the most important activities for success in this course. Whenever you have 4 consecutive or 6 total absences, the instructors may withdraw you from the courses with a grade of X or F. We do not distinguish between excused and unexcused absences. If you stop attending class, you should go through the procedure for dropping a course to obtain a grade of W. If you choose to drop one course, you must drop both the support course and College Algebra. Perfect attendance will result in 4 points added to your final grade. Having only one absence will result in 2 points added to your final grade. If you must miss, find out what the homework assignment was and stay caught up!

Important Dates:	January 21	Martin Luther King Jr Day
	February 18	Summer Registration Opens
	March 11 – 15	Spring Break
	April 15	Fall Registration Opens
	April 22	Easter Holiday
	April 25	Last Day to Drop
	May 6	Final Exam

Course Outcomes:

MATH 0314

Upon successful completion of this course, students will:

1. Define, represent, and perform operations on real numbers.
2. Use order of operations to simplify an expression.
3. Use exponent rules to simplify an expression.
4. Add, subtract, multiply, and divide polynomials.
5. Recognize, understand, and analyze features of a linear equation and a function.
6. Recognize and use algebraic properties, concepts, procedures (including factoring), and algorithms to combine, transform, and evaluate absolute value, polynomial, rational, and radical expressions.
7. Identify and solve linear, absolute value, polynomial, rational, and radical equations.
8. Identify and solve linear inequalities.

MATH 1314

Upon successful completion of this course, students will:

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.

Core Objectives:

Communication Skills

- Develop, interpret, and express ideas through written communication
- Develop, interpret, and express ideas through oral communication
- Develop, interpret, and express ideas through visual communication

Critical Thinking

- Generate and communicate ideas by combining, changing, and reapplying existing information
- Gather and assess information relevant to a question
- Analyze, evaluate, and synthesize information

Empirical and Quantitative Competency Skills

- Manipulate and analyze numerical data and arrive at an informed conclusion
- Manipulate and analyze observable facts and arrive at an informed conclusion

Academic 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 serious offense and renders the offender liable to serious consequences, possibly suspension. For more detail, see p. 22 of the South Plains College General Catalog.

Diversity Statement: In this class, the teachers 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.

Non-Discrimination Statement: 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.

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. For more information, call or visit the Disability Services Office at, Reese Center Building 8, 806-716-4675.

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 Crystal Gilster, Director of Health and Wellness at 806-716-2362 or email cgilster@southplainscollege.edu for assistance.

Campus Concealed Carry Statement: South Plains College permits the lawful carry of concealed handguns in accordance with Texas state law, and Texas Senate Bill 11. Individuals possessing a valid License to Carry permit, or the formerly issued Concealed Handgun License, may carry a concealed handgun at all campus locations except for the following: natatorium. For a complete list of campus carry exclusions zones by event, please visit <http://www.southplainscollege.edu/campuscarry.php>

Course Outline

This is a tentative schedule. Any changes will be announced in class and posted in Blackboard.

Week	Dates	Day	Topic	Lab	Assignment
1	Jan 14	Mon	Signed Numbers, Exponents, Order of Ops		1.1
	Jan 15	Tues	Fractions, Order of Ops		1.2
	Jan 16	Wed	Polynomials: Exponent Rules		1.3
	Jan 17	Thurs	Polynomials: Add, Subt, Mult, and Div		1.4
2	Jan 21	Mon	Holiday		
	Jan 22	Tues	Solve Linear and Absolute Value Equations		1.5
	Jan 23	Wed	Solve Linear Inequalities		1.6
	Jan 24	Thurs	Review 1		
3	Jan 28	Mon	EXAM 1		
	Jan 29	Tues	Factor: GCF, Grouping, and Trinomials with $a = 1$		2.1
	Jan 30	Wed	Factor: Trinomials with $a > 1$ and Special Products		2.2
	Jan 31	Thurs	Summary of Factoring / Solve Quadratics by Factoring		2.3
4	Feb 4	Mon	Simplify, Multiply, and Divide Rational Expressions		2.4
	Feb 5	Tues	Find LCD, Add and Subtract Rational Expressions		2.5
	Feb 6	Wed	Solve Rational Equations		2.6
	Feb 7	Thurs	Review 2		
5	Feb 11	Mon	EXAM 2		
	Feb 12	Tues	Simplify Radicals / Rational Exponents		3.1
	Feb 13	Wed	Rationalize Radical Expressions		3.2
	Feb 14	Thurs	Solve Radical Equations		3.3
6	Feb 18	Mon	Solve Quadratics by Factoring and the Square Root Prop		3.4
	Feb 19	Tues	Solve Quadratics by Comp the Square and Quad Form		3.5
	Feb 20	Wed	Review 3		
	Feb 21	Thurs	EXAM 3		
7	Feb 25	Mon	Distance, Midpoint, Circles		4.1
	Feb 26	Tues	Basics of Functions, Evaluate Functions		4.2
	Feb 27	Wed	Graph Functions, Analyze Graphs		4.3
	Feb 28	Thurs	Increasing, Decreasing, Piecewise Functions		4.4
8	Mar 4	Mon	Symmetry and Transformations		4.5
	Mar 5	Tues	Review 4		
	Mar 6	Wed	EXAM 4		
	Mar 7	Thurs	Functions: Operations and Composition		5.1

9	Mar 11 - 14		Spring Break		
9	Mar 18	Mon	Functions: Compositions and Inverses		5.2
	Mar 19	Tues	Functions: Slope and Graphing		5.3
	Mar 20	Wed	Functions: Equations, Parallel and Perpendicular Lines		5.4
	Mar 21	Thurs	Review 5		
10	Mar 25	Mon	EXAM 5		
	Mar 26	Tues	Graph Quadratics		6.1
	Mar 27	Wed	Synthetic Division, Solve Polynomial Equations		6.2
	Mar 28	Thurs	Graph Polynomial Functions		6.3
11	Apr 1	Mon	Graph Polynomial Functions - part 2		
	Apr 2	Tues	Graph rational functions		6.4
	Apr 3	Wed	Graph rational functions - part 2		
	Apr 4	Thurs	Solve Polynomial and Rational Inequalities		6.5
12	Apr 8	Mon	Review 6		
	Apr 9	Tues	EXAM 6		
	Apr 10	Wed	Exponential and Log Functions: Basics and Evaluating		7.1
	Apr 11	Thurs	Properties of Logs		7.2
13	Apr 15	Mon	Solve Exponential Equations		7.3
	Apr 16	Tues	Solve Log Equations		7.4
	Apr 17	Wed	Solve Systems of Equations in 2 variables		7.5
	Apr 18	Thurs	Review 7		
14	Apr 22	Mon	Holiday		
	Apr 23	Tues	EXAM 7		
	Apr 24	Wed	Solve Systems of Equations in 3 variables		8.1
	Apr 25	Thurs	Non-Linear Systems		8.2
15	Apr 29	Mon	Matrices		8.3
	Apr 30	Tues	Cramer's Rule		8.4
	May 1	Wed	Review for Final Exam		
	May 2	Thurs	Review for Final Exam		
16	Section C04: Monday, May 6, 8:00 - 10:00				
	Section C05: Monday, May 6, 10:15 - 12:15				