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

Fall 2019

Jacque Fowler & Traci Sanders

Classroom: RC 219   **Time:** MTWR 8:30 – 10:15

Instructors	Jacque Fowler	Traci Sanders
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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 – 8:30 10:15 – 11:30	8:00 – 8:30 10:15 – 11:00	8:00 – 8:30 10:15 – 11:30	8:00 – 10:00

Sanders Office Hours:

Monday	Tuesday	Wednesday	Thursday	Friday
10:15 – 11:45	10:15 – 11:00 12:45 – 1:15	10:15 – 12:15	10:15 – 11:00	8:30 – 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. Homework should be completed on notebook paper. Write down the problems, and show your work. 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:

September 2	Labor Day Holiday
October 11	Fall Break
November 11	Spring Registration Opens
November 14	Last Day to Drop
November 27 - 29	Thanksgiving Break
December 9	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	Aug 26	Mon	Signed Numbers, Exponents, Order of Ops		1.1
	Aug 27	Tues	Fractions, Order of Ops	1: 1.1	1.2
	Aug 28	Wed	Polynomials: Exponent Rules	2: HW	1.3
	Aug 29	Thurs	Polynomials: Add, Subt, Mult, and Div	3: 1.2, 1.3	1.4
2	*Sep 2*	*Mon*	*Holiday*		
	Sep 3	Tues	Solve Linear and Absolute Value Equations	4: HW	1.5
	Sep 4	Wed	Solve Linear Inequalities	5: 1.5	1.6
	Sep 5	Thurs	Review 1	6: HW	
3	Sep 9	Mon	EXAM 1		
	Sep 10	Tues	Factor: GCF, Grouping, and Trinomials with a = 1	review exam	2.1
	Sep 11	Wed	Factor: Trinomials with a ≠ 1 and Special Products	7: HW	2.2
	Sep 12	Thurs	Summary of Factoring / Solve Quadratics by Factoring	8: 2.1, 2.2	2.3
4	Sep 16	Mon	Simplify, Multiply, and Divide Rational Expressions	9: HW	2.4
	Sep 17	Tues	Find LCD and Solve Rational Equations	10: 2.4	2.5
	Sep 18	Wed	Add and Subtract Rational Expressions	11: HW	2.6
	Sep 19	Thurs	Review 2	12: HW	
5	Sep 23	Mon	EXAM 2		
	Sep 24	Tues	Properties of Roots and Complex Numbers	review exam	3.1
	Sep 25	Wed	Simplifying and Rationalizing Radical Expressions	13: 3.1	3.2
	Sep 26	Thurs	Rational Exponents and Solving Radical Equations	14: HW	3.3
6	Sep 30	Mon	Solve Quadratics by Factoring and the Square Root Prop	15: 3.2, 3.3	3.4
	Oct 1	Tues	Solve Quadratics by Comp the Square and Quad Form	16: 3.4	3.5
	Oct 2	Wed	Review 3	17: HW	
	Oct 3	Thurs	EXAM 3		
7	Oct 7	Mon	Distance, Midpoint, Circles	review exam	4.1
	Oct 8	Tues	Basics of Functions, Analyzing Graphs	18: 4.1	4.2
	Oct 9	Wed	Evaluating Functions, Symmetry	19: HW	4.3
	Oct 10	Thurs	Increasing, Decreasing, Piecewise Functions	20: 4.2, 4.3	4.4
8	Oct 14	Mon	Graphs and Transformations	21: 4.4	4.5
	Oct 15	Tues	Review 4	22: HW	
	Oct 16	Wed	EXAM 4		

	Oct 17	Thurs	Functions: Operations and Composition	review exam	5.1
9	Oct 21	Mon	Funtions: Compositions and Inverses	23: 5.1	5.2
	Oct 22	Tues	Functions: Slope and Graphing	24: HW	5.3
	Oct 23	Wed	Functions: Equations, Parallel and Perpendicular Lines	25: 5.2, 5.3	5.4
	Oct 24	Thurs	Review 5	26: HW	
10	Oct 28	Mon	EXAM 5		
	Oct 29	Tues	Graph Quadratics	review exam	6.1
	Oct 30	Wed	Synthetic Division, Solve Polynomial Equations	27: 6.1	6.2
	Oct 31	Thurs	Graph Polynomial Functions	28: 6.2	6.3
11	Nov 4	Mon	Graph Polynomial Functions - part 2	29: HW	
	Nov 5	Tues	Graph rational functions	30: 6.3	6.4
	Nov 6	Wed	Graph rational functions - part 2	31: HW	
	Nov 7	Thurs	Solve Polynomial and Rational Inequalities	32: 6.4	6.5
12	Nov 11	Mon	Review 6	33: HW	
	Nov 12	Tues	EXAM 6		
	Nov 13	Wed	Exponential and Log Functions: Basics and Evaluating	review exam	7.1
	Nov 14	Thurs	Properties of Logs	34: 7.1	7.2
13	Nov 18	Mon	Solve Exponential Equations	35: HW	7.3
	Nov 19	Tues	Solve Log Equations	36: 7.2, 7.3	7.4
	Nov 20	Wed	Solve Systems of Equations in 2 variables	37: 7.4	7.5
	Nov 21	Thurs	Review 7	38: HW	
14	Nov 25	Mon	EXAM 7		
	Nov 26	Tues	Solve Systems of Equations in 3 variables	review exam	8.1
	Nov 27	*Wed*	*Holiday*		
	Nov 28	*Thurs*	*Holiday*		
15	Dec 2	Mon	Non-Linear Systems	39: 8.1	8.2
	Dec 3	Tues	Matrices	40: 8.2	8.3
	Dec 4	Wed	Cramer's Rule	41: HW	8.4
	Dec 5	Thurs	Review for Final Exam	42: HW	
16	*Monday, Dec 9, 8:00 - 10:00*				