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 2018

Jacque Fowler & Traci Sanders

Classroom: RC 221   **Time:** MTWR 8:30 – 10:15 am

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 – 11:00	8:00 – 8:30 10:15 – 11:00	8:00 – 8:30 10:15 – 11:00	8:00 – 11:00

Sanders Office Hours:

Monday	Tuesday	Wednesday	Thursday	Friday
10:15 – 12:15	10:15 – 11:15	10:15 – 11:15	10:15 – 11:15	9:00 – 12:00

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, TI-89, TI-92, TI-Nspire calculators, or other electronic devices will not be allowed during testing), pencils, graph paper, 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: 60 – 69
                       F: 59 or below

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!**

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 course 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. For more detail, see p. 19 of the South Plains College General Catalog. 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 3	Labor Day Holiday
October 12	Fall Break
November 12	Registration Opens for Spring
November 15	Last Day to Drop
November 21 – 23	Thanksgiving Holiday
December 10	Final Exam: 8:00 – 10:00 am

Course Outcomes:
MATH 0314
Upon successful completion of this course, students will:
1. Define, represent, and perform operations on real and complex 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 (field) 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 absolute value and linear inequalities.
9. Model, interpret, justify mathematical ideas and concepts using multiple representations.
10. Connect and use multiple strands of mathematical situations and problems, as well as in the study of other disciplines.

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. 21 of the South Plains College General Catalog.

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 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.

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.

Sexual Misconduct: As faculty members, we are deeply invested in the well-being of each student we teach. We are here to assist you with your work in this course. If you come to us with other non-course-related concerns, we will do our best to help. It is important for you to know that all faculty members are mandated reporters of any incidents of sexual misconduct. That means that we cannot keep information about sexual misconduct confidential if you share that information with us. Dr. Lynne Cleavinger, the Director of Health & Wellness, can advise you confidentially as can any counselor in the Health & Wellness Center. They can also help you access other resources on campus and in the local community. You can reach Dr. Cleavinger at 716-2563 or lcleavinger@southplainscollege.edu or go by the Health and Wellness Center. You can schedule an appointment with a counselor by calling 716-2529.

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	Assignment
1	Aug 27	Mon	Signed Numbers, Exponents, Order of Ops	1.1
	Aug 28	Tues	Fractions, Order of Ops	1.2
	Aug 29	Wed	Polynomials: Exponent Rules	1.3
	Aug 30	Thurs	Polynomials: Add, Subt, Mult, and Div	1.4
2	*Sept 3*	*Mon*	*Holiday*	
	Sept 4	Tues	Solve Linear and Absolute Value Equations	1.5
	Sept 5	Wed	Solve Linear and Absolute Value Inequalities	1.6
	Sept 6	Thurs	EXAM 1	
3	Sept 10	Mon	Factor: GCF, Grouping, and Trinomials with a = 1	2.1
	Sept 11	Tues	Factor: Trinomials with a > 1 and Special Products	2.2
	Sept 12	Wed	Summary of Factoring / Solve Quadratics by Factoring	2.3
	Sept 13	Thurs	Simplify, Multiply, and Divide Rational Expressions	2.4
4	Sept 17	Mon	Find LCD and Form Equivalent Expressions	2.5
	Sept 18	Tues	Add and Subtract Rational Expressions	2.6
	Sept 19	Wed	Solve Rational Equations	2.7
	Sept 20	Thurs	Review 2	
5	Sept 24	Mon	EXAM 2	
	Sept 25	Tues	Add, Subtract, & Multiply Complex Numbers	3.1
	Sept 26	Wed	Simplify Radicals / Rational Exponents	3.2
	Sept 27	Thurs	Add, Subtract, & Multiply Radicals	3.3
6	Oct 1	Mon	Rationalize Radical Expressions	3.4
	Oct 2	Tues	Solve Radical Equations	3.5
	Oct 3	Wed	Review 3	
	Oct 4	Thurs	EXAM 3	
7	Oct 8	Mon	Solve Quadratics by Factoring and the Square Root Prop	4.1
	Oct 9	Tues	Solve Quadratics by Comp the Square and Quad Form	4.2
	Oct 10	Wed	Distance, Midpoint, Circles	4.3
	Oct 11	Thurs	Basics of Functions, Evaluate Functions	4.4

	Oct 15	Mon	Graph functions, Analyze graphs	4.5
8	Oct 16	Tues	EXAM 4	
	Oct 17	Wed	Functions: Operations and Composition	5.1
	Oct 18	Thurs	Funtions: Compositions and Inverses	5.2
9	Oct 22	Mon	Functions: Slope and Graphing	5.3
	Oct 23	Tues	Functions: Equations, Parallel and Perpendicular Lines	5.4
	Oct 24	Wed	Systems of Inequalities	5.5
	Oct 25	Thurs	Review 5	
10	Oct 29	Mon	EXAM 5	
	Oct 30	Tues	Graph Quadratics	6.1
	Oct 31	Wed	Synthetic Division, Solve Polynomial Equations	6.2
	Nov 1	Thurs	Graph Polynomial Functions	6.3
11	Nov 5	Mon	Graph rational functions	6.4
	Nov 6	Tues	Graph rational functions - part 2	
	Nov 7	Wed	Solve Polynomial and Rational Inequalities	6.5
	Nov 8	Thurs	Review 6	
12	Nov 12	Mon	EXAM 6	
	Nov 13	Tues	Exponential and Log Functions: Basics and Evaluating	7.1
	Nov 14	Wed	Properties of Logs	7.2
	Nov 15	Thurs	Solve Exponential Equations	7.3
13	Nov 19	Mon	Solve Log Equations	7.4
	Nov 20	Tues	Solve Systems of Equations in 2 variables	7.5
	Nov 21	*Wed*	*Holiday*	
	Nov 22	*Thurs*	*Holiday*	
14	Nov 26	Mon	Review 7	
	Nov 27	Tues	EXAM 7	
	Nov 28	Wed	Solve Systems of Equations in 3 variables	8.1
	Nov 29	Thurs	Non-Linear Systems	8.2
15	Dec 3	Mon	Matrices	8.3
	Dec 4	Tues	Cramer's Rule	8.4
	Dec 5	Wed	Review for Final Exam	
	Dec 6	Thurs	Review for Final Exam	
16	*Monday, December 10* *Final Exam 8:00 - 10:00 am*			