Department: Mathematics, Engineering, and Computer Science

Discipline: Mathematics

Course Number: MATH 0314
Course Title: College Algebra Support Course

Course Number: MATH 1314
Course Title: College Algebra

Available Formats: conventional, hybrid, and internet

Campuses: Levelland, Plainview, and <u>Lubbock Downtown Center</u>

0314 Course Description: Math 0314 is to be taken concurrently with MATH 1314. Background topics which are necessary for a student to successfully complete MATH 1314 will be covered, with an emphasis on fractions, factoring polynomials, functions, exponents, and operating with radical and rational expressions.

1314 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 340 on the TSIA1, minimum diagnostic score of 3 on the TSIA2, a successful completion with a grade of 'C' or better in MATH 0315, or a successful completion of NCBM-0105.

0314 Credit: 3 **Lecture:** 3 **Lab:** 1
1314 Credit: 3 **Lecture:** 3 **Lab:** 1

This course partially satisfies a Core Curriculum Requirement: 0314 - None
1314 - 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

0314 Student Learning Outcomes: Upon completion of this course and receiving a passing grade, the student will be able to:

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

1314 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/Student Engagement Policy: Attendance and engagement are the most critical activities for success in this course. The instructor maintains records of the student's attendance and submission of assignments throughout the semester. The student is expected to attend at least eighty percent (80%) of the **total** class meetings **and** submit at least eighty percent (80%) of the **total** class assignments to have the best chance of success. If the student fails to meet these minimum requirements, the instructor <u>may</u> remove the student from the class with an X, upon their discretion, to help the student from harming their GPA. If the student cannot receive an X, the instructor will assign an F.

Academic Integrity (Plagiarism and Cheating Policy): "Complete honesty is required of the student in the presentation of any and all phases of course work. This idea applies to quizzes of whatever length as well to final examinations, to daily reports, and to term papers." *(SPC General Catalog)* 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.

It is the aim of the faculty of South Plains College to foster a spirit of complete honesty and a high standard of 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 most serious offense and renders the offender liable to serious consequences, possibly suspension. *(SPC General Catalog)* Plagiarism and cheating are not tolerated in this course. Under the policies of South Plains College, punishment for cheating may include no credit (failing) on the assignment, quiz, exam, or the course.

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.

Other Policies:
South Plains College policies concerning diversity, disabilities, non-discrimination, Title IX Pregnancy Accommodations, and Campus Concealed Carry Statements can be found here: https://www.southplainscollege.edu/syllabusstatements/.

South Plains College policies, return to campus plan, and protocols regarding COVID-19 can be found here: https://www.southplainscollege.edu/emergency/covid19-faq.php.

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.

Classroom	B011 (Basement of Downtown Center)	**Time**	TR 11:00 – 12:45 MW – on your own time
Instructor	Traci Sanders	**Phone**	806-716-4616
E-mail	tsanders@southplainscollege.edu	**Office**	B021

Office Hours:

Monday	Tuesday	Wednesday	Thursday	Friday
8:30 – 11:00	12:45 – 2:15		12:45 – 2:15	8:30 – 11:00

Communication: You may email me at tsanders@southplainscollege.edu or email me through Blackboard. When you log into the course on Blackboard, there is a link to Send Email in the main menu on the left side. I will do my best to respond to your email within 24 hours. When I post an announcement in Blackboard, the announcement will also be sent to your SPC email address. Please check your SPC email daily!

SPC Tutors: Tutoring is FREE for all currently enrolled students. Make an appointment or drop-in for help at any SPC location or online! Visit the link below to learn more about how to book an appointment, view the tutoring schedule, and view tutoring locations.
http://www.southplainscollege.edu/exploreprograms/artsandsciences/teacheredtutoring.php

Tutor.com: You also have 180 FREE minutes of tutoring with Tutor.com each week, and your hours reset every Monday morning. Log into Blackboard, click on the tools option from the left-hand menu bar. Click on the Tutor.com link and you will automatically be logged in for free tutoring. You may access tutor.com tutors during the following times:
Monday – Thursday: 8pm-8am
6pm Friday – 8am Monday morning

Text: No textbook is required.

Required Materials: binder, notebook paper, pencils (please show your work in pencil), straightedge, scientific or graphing calculator (cell phones, smart watches, TI-89, TI-92, TI-Nspire calculators, or other electronic devices will not be allowed)

Blackboard: https://southplainscollege.blackboard.com
Blackboard is an online course management system that will be used in this course. For technical support, call 806-716-2180 or email blackboard@southplainscollege.edu.

Attendance: Your attendance is monitored through physical attendance and completion of assignments. If you must miss, please email me to find out what you need to do to stay caught up. If you are absent for 6 classes or you miss 10 assignments, the instructor may withdraw you from the course with a grade of X. If you wish to drop this class, you should submit a **Student Initiated Drop Form** online. Students will not be required to obtain an instructor signature to drop, however, students should communicate with instructors or advisors prior to dropping a course when they are able.

Class Format: Hybrid

Mondays & Wednesdays (on your own time):
1. See the course calendar for which section needs to be completed on that day.
2. Print the notes, and watch the videos to fill in the notes for that section.
3. Complete the homework assignment for that section.

Tuesdays & Thursdays (class meetings from 11:00 to 12:45):
1. Bring to class: completed notes and homework from previous day's section, blank printed notes for that day's section
2. I will answer questions over notes and homework from previous section.
3. I will lecture over that day's section. Fill in your notes as I lecture.
4. Complete lab work for a grade. I will check your notes from previous section as you are working on the lab.

Lesson Videos and Notes: There are videos and notes posted in Blackboard for each section. To find the videos and notes, click on the unit in the main menu and then the section. All the notes will need to be printed. (I will print Section 1.1 for you.) On Mondays and Wednesdays, use the videos to fill in the notes. On Tuesdays and Thursdays, you will fill in the notes during class. If you have to miss class, you may use the videos to fill in the notes. Keep your notes organized, and always bring them to class. I recommend keeping your notes in a binder. The course calendar shows which notes will be graded. As long as the notes are completed correctly, you will earn a 100. If you are absent, you can scan your notes and email them to me. If absent, the notes are due by 10:00 pm on the day you miss class. Late notes will not be accepted. When you work on homework and labs, you may use your notes as reference.

Homework: Homework assignments for each section are posted in Blackboard. Homework is located in the same folder as the videos and notes. Homework should be completed neatly on notebook paper with work shown. The answers are given so that you can check your answers and make sure you are working the problems correctly. The homework will help you prepare for labs and tests! Homework will be turned in on test days. You may earn one bonus point per homework assignment to be added to your test grade. To get the bonus point for the assignment, it cannot be missing more than two problems, and the work must be shown as taught in the videos and in class.

Labs: Approximately the last 20 - 30 minutes of class will be our lab time. The lowest three lab grades will be dropped. There are no make-up 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.
2. Work a few problems to be turned in for a grade. You will not be allowed any electronic device other than a calculator.

Tests: There will be 6 tests and a comprehensive final exam. There will be NO MAKEUP TESTS! Dates for all tests are given in the course calendar, so PLAN AHEAD! You will be allowed one 8.5" by 11" sheet of notes (front only) on the tests. You will not be allowed any electronic devices other than a calculator. Calculators are not allowed on Test 1 but may be used on the other tests.

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

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

There will be a category in the Blackboard gradebook titled Course Average. This is the number you should look at throughout the semester to see your current average in the course. Do not use the Total category to calculate your average. Blackboard automatically creates the Total category. You do not need to pay any attention to it.

Grading Scale:
A: 90 and above, B: 80 – 89, C: 70 – 79, D: 60 – 69, F: 59 or below

You will earn a letter grade for Math 1314. The grade for Math 0314 will be Pass/Fail. A passing grade for Math 0314 makes you TSI complete in math.

To maximize your potential for successfully completing this course:
- login to Blackboard daily;
- attend each class and ask for help when needed;
- watch the lecture videos and take notes on them;
- thoroughly complete notes, homework, and labs;
- practice the problems repeatedly until you have full mastery of them.

Corequisite College Algebra Course Calendar
Spring 2023

This is a tentative schedule. Any changes will be announced in class and posted in Blackboard.
Assignments that will be graded are highlighted in yellow.

Grading Policy: Notes/Lab Avg = 10%, Test Avg = 70%, Final Exam = 20%
The lowest three lab grades will be dropped. There are no make-up labs.

	Monday	Tuesday	Wednesday	Thursday	Friday
1	Jan 16 **Martin Luther King, Jr Holiday**	Jan 17 Section 1.1	Jan 18 Section 1.1	Jan 19 Section 1.2 Lab 1	Jan 20
2	Jan 23 Section 1.3	Jan 24 Section 1.4 Notes 1: 1.3 Lab 2	Jan 25 Section 1.5	Jan 26 Section 1.6 Notes 2: 1.5 Lab 3	Jan 27
3	Jan 30 Review	Jan 31 Test 1 (Unit 1)	Feb 1 Section 2.1	Feb 2 Section 2.2 Notes 3: 2.1 Lab 4	Feb 3
4	Feb 6 Section 2.3	Feb 7 Section 2.4 Notes 4: 2.3 Lab 5	Feb 8 Section 2.5	Feb 9 Section 2.6 Notes 5: 2.5 Lab 6	Feb 10
5	Feb 13 Review	Feb 14 Test 2 (Unit 2)	Feb 15 Section 3.1	Feb 16 Section 3.2 Notes 6: 3.1 Lab 7	Feb 17
6	Feb 20 Section 3.3	Feb 21 Section 3.4 Notes 7: 3.3 Lab 8	Feb 22 Section 3.5	Feb 23 Section 3.5 Notes 8: 3.5 Lab 9	Feb 24

7	Feb 27 Review	Feb 28 Test 3 (Units 1 – 3)	Mar 1 Section 4.1	Mar 2 Section 4.2 Notes 9: 4.1 Lab 10	Mar 3
8	Mar 6 Section 4.3	Mar 7 Section 4.4 Notes 10: 4.3 Lab 11	Mar 8 Section 4.5	Mar 9 Section 5.1 Notes 11: 4.5 Lab 12	Mar 10
9	Mar 13 Spring Break	Mar 14 Spring Break	Mar 15 Spring Break	Mar 16 Spring Break	Mar 17 Spring Break
10	Mar 20 Section 5.2	Mar 21 Section 5.3 Notes 12: 5.2 Lab 13	Mar 22 Section 5.3	Mar 23 Section 5.4 Notes 13: 5.3 Lab 14	Mar 24
11	Mar 27 Review	Mar 28 Test 4 (Units 4 & 5)	Mar 29 Section 6.1	Mar 30 Section 6.2 Notes 14: 6.1 Lab 15	Mar 31
12	Apr 3 Section 6.3	Apr 4 Section 6.4 Notes 15: 6.3 Lab 16	Apr 5 Section 6.4	Apr 6 Section 6.5 Notes 16: 6.4 Lab 17	Apr 7 Easter Break
13	Apr 10 Review Online Registration Opens	Apr 11 Test 5 (Unit 6)	Apr 12 Section 7.1	Apr 13 Section 7.2 Notes 17: 7.1 Lab 18	Apr 14
14	Apr 17 Section 7.3	Apr 18 Section 7.4 Notes 18: 7.3 Lab 19	Apr 19 Section 7.5	Apr 20 Section 7.5 Notes 19: 7.5 Lab 20	Apr 21

15	**Apr 24** Review	**Apr 25** Test 6 (Unit 7)	**Apr 26** Section 8.1	**Apr 27** Section 8.2 Notes 20: 8.1 Lab 21 Last Day to Drop	**Apr 28**
16	**May 1** Section 8.3	**May 2** Section 8.4 Notes 21: 8.3 Lab 22	**May 3** Review	**May 4** Review	**May 5**
17	**May 8**	**May 9** Final Exam 10:15 – 12:15	**May 10**	**May 11**	**May 12**

Section Titles

1.1 Integers, Exponents, and Order of Operations
1.2 Fractions and Order of Operations
1.3 Polynomials: Exponent Rules
1.4 Polynomials: Add, Subtract, Multiply, and Divide
1.5 Solve Linear and Absolute Value Equations
1.6 Solve Linear Inequalities

2.1 Factoring: GCF, Grouping, and Trinomials with $a = 1$
2.2 Factoring: Trinomials with $a \neq 1$ and Special Products
2.3 Summary of Factoring and Solve Quadratic Equations by Factoring
2.4 Simplify, Multiply, and Divide Rational Expressions
2.5 Find LCD and Solve Rational Equations
2.6 Add and Subtract Rational Expressions

3.1 Properties of Roots and Complex Numbers
3.2 Simplify and Rationalize Radical Expressions
3.3 Rational Exponents and Solve Radical Equations
3.4 Solve Quadratic Equations by Factoring and the Square Root Property
3.5 Solve Quadratic Equations by Completing the Square and Quadratic Formula

4.1 Distance, Midpoint, and Circles
4.2 Basics of Functions and Analyzing Graphs
4.3 Evaluating Functions and Symmetry
4.4 Increasing, Decreasing, and Piecewise Functions
4.5 Graphs and Transformations

5.1 Functions: Operations and Composition
5.2 Functions: Composition and Inverses
5.3 Slope and Graph Linear Functions
5.4 Equations of Lines; Parallel and Perpendicular Lines

6.1 Graph Quadratic Functions
6.2 Synthetic Division and Solve Polynomial Equations
6.3 Graph Polynomial Functions
6.4 Graph Rational Functions
6.5 Solve Polynomial and Rational Inequalities