MATH0314 – College Algebra Support Course
MATH1314 – College Algebra
Section C003
Room: M122, Levelland Campus
M-R: 1:00 PM – 2:45 PM

SOUTH PLAINS COLLEGE
MATHEMATICS, ENGINEERING & COMPUTER SCIENCE

Contact

Instructor: Mr. Vargas

Email: evargas@southplainscollege.edu

Phone: (806) 716-4673

Office Hours

M-R: 11:20 PM – 12:50 PM
Levelland Campus, **M101**

F: 8:45 AM – 10:45 AM
Lubbock Downtown Center, **B032**

Description

MATH0314: 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.

MATH1314: In-depth study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Emphasis in solving equations and graphing functions.

Supplies

1. Pencils, erasers, and paper.
2. Non-graphing calculator.
3. **MyLab Math Code**: *College Algebra with Intermediate Algebra: A Blended Course*, Beecher, Penna Johnson and Bittinger. **ISBN-13: 9780134555263**
   a. **Textbook is NOT required**
   b. Code purchased from Bookstore OR online. **A Course ID will not be given to you!**
4. *College Algebra by* OpenStax - https://openstax.org/details/books/college-algebra

Grading

A: 90-100	**Pass – Excellent Performance**
B: 80-89	**Pass – Good Performance**
C: 70-79	**Pass – Satisfactory Performance**
D: 60-69	**Depends – Less than Satisfactory**
F: 0-59	**Fail – Unsatisfactory Performance**

Weights

Homework	10%
Exams (3)	20% each
Final Exam	30%
Total	**100%**

Homework

Assigned through **MyLab Math**. Students receive immediate feedback as progress is made for each assignment.
1. Physical homework is not required to turn in.
2. Due Dates are displayed in **MyLab Math** and the **Course Calendar**
3. Unlimited try attempts before the due date without penalty.
4. Assignments cannot be made up after the due date has passed.
5. **Extra Credit** is offered by completing Review Homework Assignments! (up to 10%)

Examinations

Exams cover topics stated in the Calendar. Students are required to handwrite and complete all problems by showing step-by-step calculations that lead to the solution(s) or graphs.
1. Closed book and notes. Full class time available. **– Unprogrammable scientific calculators only!**
2. The Final Exam is comprehensive, covering any or all topics in the semester.
3. Exams cannot be made up if missed. The Final Exam may replace your lowest scored exam.
4. Final Exam is scheduled @ **Wednesday Dec 13, 2023 @ 10:15 AM – 12:15 PM in M122 Levelland Campus**
5. **Failure to attempt the Final Exam will result in a failing grade for the course regardless of current grade.**
6. **Extra Credit** is offered on every exam by solving an additional problem! (up to 10%)

Class Policies and Information

Disclaimer: The instructor reserves the right to alter any class policies/dates as deemed necessary by the instructor. If there are any changes, they will be announced over Blackboard and via your SPC email.

Attendance Policy
The student is expected to **submit at least eighty percent (80%)** of the class assignments to have the best chance of success. If the student fails to meet these minimum requirements, the instructor can remove the student from the class.

Pearson – MyLab Math
Students are expected to purchase **Pearson's MyLab Math** from the bookstore OR online through Pearson. It is a **required** course material item. **The textbook is not required.** A 14-day free trial period is offered if the student needs extra time to purchase the software. Students must have full access to the software by the second week of class. Instructions can be found here,

Office Hours
Office hours will be held at the listed times. Please come prepared with questions and examples of the attempted problem(s)

South Plains College Email Policy
The instructor will respond to all emails **within 36 hours** during the week day. Emails sent after 5:00 PM on Fridays may not be answered until the following Monday morning.

Additional Support
Online demo videos and a free textbook is available!
- Videos are provided to the student via Blackboard located in each week's folder.
- A free, online textbook, is available for online viewing or digital download.

SPC also offers **free tutoring!** This information is located here.

Drop/Withdrawal
Students should submit a Student Initiated Drop Form online to drop from the course. If the student wishes to withdraw from this or more courses, the student needs to contact the Advising Office.

Wellness Statement
I If you are experiencing any of the following symptoms, please do not attend class and either seek medical attention or get tested for COVID-19:
- Cough, shortness of breath, difficulty breathing
- Fever or chills
- Muscles or body aches
- Vomiting or diarrhea
- New loss of taste and smell

Please also notify DeEtte Edens, BSN, RN, Associate Director of Health & Wellness, at 806-716-2376 or dedens@southplainscollege.edu

Week		MATH0314	MATH1314
Course Calendar			
1	Aug 28 Aug 31	• Numbers, Operators, and Order of Operations • Combining Like Terms and Distribution • Function Notation and Graphing	• Linear Expressions • Solving Linear Equations and Inequalities • Functions, Properties, and Graphing
2	Sept 4 Sept 7	**Sep 4 – Labor Day No Class!**	
		• Multiplying by the Form of 1 • Radical Algebra • Basic Factoring and Perfect Squares	• Graphing Linear Functions and Inequalities • Radical Rationalizing and Conjugates • Solving Radical Equations
3	Sep 11 Sep 14	• Complex Number Algebra • Zero Product Property • Sum and Difference of Two Squares	• Complex Numbers and Complex Conjugate • Solving Quadratic Equations – AC Method • Solving Quadratic Equations – Complete the Square
4	Sep 18 Sep 20	• Analyzing Library of Functions • Quadratic Vertex and Standard Forms • Complex Quadratic Solutions	• Function Transformations • Graphing Quadratic Functions and Inequalities
5	Sep 25 Sep 28	**Sep 25 – Exam #1 Review**	**Sep 26 – Exam #1 & Homework #1 Due @ 11:59 PM**
		• Polynomial Algebra • Long and Synthetic Division Review	• Polynomial Expressions • Long and Synthetic Division
6	Oct 2 Oct 5	• Factoring via Grouping and Quadratic Forms • Sum and Difference of Two Cubes • Evaluating at Zero Roots	• Solving Polynomial Equations • Rational Roots Theorem • Solving Polynomials using Long/Synthetic Division
7	Oct 9 Oct 12	• Polynomial Behavior • Division by Zero and Undefined Meaning • Rational Algebra	• Graphing Polynomial Functions • Discontinuities • Solving Rational Equations
8	Oct 16 Oct 21	• Graphical Representation of Discontinuities • Evaluating Functions at Various Intervals	• Graphing Rational Functions • Solving Polynomial Inequalities • Solving Rational Inequalities
9	Oct 23 Oct 26	• Review on Simplifying Expressions	• Function Algebra and Composition
		Oct 25 – Exam #2 Review	**Oct 26 – Exam #2 & Homework #2 Due @ 11:59 PM**
10	Oct 30 Nov 2	• Algebraic and Graphical Interpretation of Inverses • Simplifying Exponential and Logarithm Expressions • Converting Exponentials to Logs and Vice Versa	• Inverse Functions • Exponential and Logarithm Properties • Solving Exponential Equations
11	Nov 6 Nov 9	• Change of Base Formula • Evaluating Exponentials and Logarithms • Graphing the Inverse of Exponents and Logs	• Solving Logarithm Equations • Graphing Exponential Functions • Graphing Logarithm Functions
12	Nov 13 Nov 16	• Numbers and Units • Review of Function Graphs	• Logarithm and Exponential Applications • Piecewise Functions
13	Nov 20 Nov 23	**Nov 20 – Exam #3 Review**	**Nov 21 – Exam #3 & Homework #3 Due @ 11:59 PM**
		Nov 22 – 24 Thanksgiving Holiday. No Class!	
14	Nov 27 Nov 30	• Substitution and Elimination Methods • Converting Slope-Intercept to Standard Form • Converting Systems of Equations to Matrix Form	• Systems of Equations • Graphing Systems of Equations • Matrices
		Nov 30 – Last Day to Drop!	
15	Dec 4 Dec 7	• Matrix Algebra • Special Types of Matrices	• Determinants and Cramer's Rule • Row Operations and Gauss-Jordan Elimination
		Dec 7 – Final Exam Review & Homework #4 Due @ 11:59 PM	
16	Dec 13	**Final Exam: Wednesday Dec 13, 2023 @ 10:15 AM – 12:15 PM in M122 Levelland Campus**	

South Plains College
Common Course Syllabus: MATH 0314
Revised July 2023

Department: Mathematics, Engineering, and Computer Science

Discipline: Mathematics

Course Number: MATH 0314

Course Title: College Algebra Support Course

Available Formats: conventional, hybrid, and internet

Campuses: Levelland, Downtown Center, and Plainview Center

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.

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.

Credit: 3 **Lecture:** 3 **Lab:** 1

Textbook: *College Algebra with Intermediate Algebra: A Blended Course*, Beecher, Penna, Johnson, and Bittinger, 2018, 1st Edition, Prentice Hall/Pearson Education

Supplies: Please see the instructor's course information sheet for specific supplies.

This course partially satisfies a Core Curriculum Requirement: None

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

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 can not receive an X, the instructor will assign an F.

Plagiarism violations include, but are not limited to, the following:
1. Turning in a paper that has been purchased, borrowed, or downloaded from another student, an online term paper site, or a mail-order term paper mill;
2. Cutting and pasting together information from books, articles, other papers, or online sites without providing proper documentation;
3. Using direct quotations (three or more words) from a source without showing them to be direct quotations and citing them; or
4. Missing in-text citations.

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.

Student Code of Conduct Policy: Any successful learning experience requires mutual respect from the student and the instructor. Neither the instructor nor the student should be subject to others' rude, disruptive, intimidating, aggressive, or demeaning behavior**.** 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.

For information regarding official South Plains College statements about intellectual exchange, disabilities, non-discrimination, Title IX Pregnancy Accommodations, CARE Team, and Campus Concealed Carry, please visit 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.

South Plains College
Common Course Syllabus: MATH 1314
Revised December 2022

Department: Mathematics, Engineering, and Computer Science

Discipline: Mathematics

Course Number: MATH 1314

Course Title: College Algebra

Available Formats: conventional, hybrid, internet, and ITV

Campuses: Levelland, Downtown Center, Plainview Center, and Dual Credit

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 350 on the TSIA1, minimum score of 950 on the TSIA2, a diagnostic score of 6 on the TSIA2, TSI-exempt status, a successful completion with a grade of 'C' or better in MATH 0320, or successful completion of NCBM-0114.

Credit: 3 **Lecture:** 3 **Lab:** 1

Textbook: *College Algebra with Intermediate Algebra: A Blended Course*, Beecher, Penna, Johnson, and Bittinger, 2018, 1st Edition, Prentice Hall/Pearson Education

Supplies: Please see the instructor's course information sheet for specific supplies.

This course partially satisfies a Core Curriculum Requirement: Mathematics Foundational Component Area (020)

Core Curriculum Objectives addressed:
- **Communications skills**—to include effective written, oral and visual communication
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1. Demonstrate and apply knowledge of properties of functions, including domain and range, operations, compositions, and inverses.
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