

South Plains College
Department of Mathematics & Engineering
MATH 1314 – College Algebra
Course Syllabus – Fall 2019

Instructor: Jerod Clopton
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Office Hours:

Monday	Tuesday	Wednesday	Thursday	Friday
10:15 - 11:00	8:15 - 9:00	10:15 - 11:00	8:15 - 9:00	10:00 - 12:00
1:45 - 2:30	1:45 - 2:30	1:45 - 2:30	1:45 - 2:30	
Or by appointment				

Core Objectives:

Communication Skills: Effective development, interpretation, and expression of ideas through written, oral, and visual communication.

- 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: Creative thinking, innovation, inquiry, analysis, evaluation, and synthesis of information.

- 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: The manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

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

Student Learning Outcomes/Competencies*:

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.

**Developed by the Texas Coordinating Board and the Faculty of South Plains College's Math and Engineering Department.*

Textbook: No textbook is required for this class. However; the assignments and lectures for this course are derived from an OER (Open Educational Resource) college algebra textbook published by OpenStax. A free online copy can be viewed or downloaded from the following link:
<https://openstax.org/details/books/college-algebra>

Course Objectives: Successful completion of this course should reflect mastery of the following objectives. Chapter and section numbers are indicated in parentheses.

1. Solve and graph problems involving linear, quadratic, exponential, and logarithmic functions
2. Solve and graph linear, quadratic, and rational inequalities
3. Identify and simplify complex numbers
4. Apply midpoint, distance, and circle formulas
5. Analyze and graph polynomial functions
6. Analyze and graph rational functions
7. Create and solve systems of equations with algebraic techniques, with matrix techniques, and with determinants
8. Apply the Binomial Theorem to expand binomials of higher degree.

Attendance Policy: Class attendance is expected, not optional. Class attendance may be taken at any time during the class period. You will be counted absent if you are not present at the time attendance is taken or if you leave class early. You may be dropped from this course with a grade of X or F if you are absent four consecutive classes or if you exceed five absences (**for any reason**).

Homework and Quizzes: Homework assignments will be administered through Knewton, a company that provides online assessment along with adaptive instruction and resources. See attached sheet for instructions for logging into Knewton for this course. Working to achieve a mastery level of accomplishment on the homework assignments will help prepare you for quizzes and exams. Periodic quizzes will be given at any undisclosed time during the semester. To do well on the quizzes, you need to be consistently completing the homework. **There is NO makeup for in-class quizzes and a grade of zero will be assigned.** The average of homework and quiz grades will account for 20% of your final grade.

Exams: There will be four unit exams though out the semester and a comprehensive final exam at the end of the semester. Each unit exams will account for 15% of your final grade. Make up exams are very rare and are only given at the discretion of the instructor. If you know that you are going to miss an exam you should notify the instructor before the date of the exam. The final comprehensive exam is required and will account for 20% of your final grade. There is no make up or early testing opportunity for the final exam.

Grading Formula: Enrollment in this course does not guarantee advancement to the next course level. The final responsibility for learning lies with the student. The final letter grade for this course will be based on the following:

Homework	20%
4 Tests 15% each	60%
Final Exam.....	20%

Final Grade Determination: A (90-100%), B (80-89%), C (70-79%), D (60-69%), F (0-59)

Supplies: You will need a scientific calculator; such as a TI-30X IIS. Graphing calculators or calculators on cell phones or any other electronic device are not allowed in class quizzes or exams. You will also need pencils, lined paper, and graph paper.

Resources:

- Blackboard! The course syllabus, handouts for notes, homework, quiz keys, and reviews will be available on Blackboard.
- TutorMe – instant online tutoring made available through Blackboard.
- Free tutoring is available in M116 on the Levelland campus. Hours for the tutors will be posted by there.

Student Conduct: You are expected to be respectful to others in the classroom. Please assist in maintaining a classroom environment conducive to learning. Any student disrupting the learning environment will be asked to leave and may be dropped from the course.

Use of Student Email: The College provides a free, official email account to all students to ensure efficient and secure communications between you and the College and your instructors. Students will be expected to use their college-issued email address to communicate with their instructors and all other college personnel, so it is easy to distinguish a student's email from spam. The College expects that students will utilize their college email addresses to send and receive communications with college personnel and will read email on a frequent and consistent basis.

Disabilities 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 to the Disability Services Office. For more information, call or visit the Disability Services Office at Levelland (Student Health & Wellness Office) 806-716-2577, Reese Center (Building 8) 806-716-4675, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.

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.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations and Frequently Asked Questions, please refer to the Campus Carry page at: <https://www.southplainscollege.edu/campuscarry.php>
Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 9-1-1.

Disclaimer: The instructor reserves the right to alter any class policies/dates as deemed necessary by the instructor, and will announce any changes in class.

Math 1314 MWF Tentative Course Schedule Fall 2019

Week	Date	Assignment
1	Mon, Aug 26	Syllabus / Prerequisites
	Wed, Aug 28	
	Fri, Aug 30	
2	Mon, Sep 02	Labor Day Holiday
	Wed, Sep 04	Solve Rational Equations
	Fri, Sep 06	Basics of Complex Numbers
		Operations on Complex Numbers
3	Mon, Sep 09	Solve Quadratic Equations by Factoring
		Complete the Square
		Quadratic Formula
	Wed, Sep 11	Solve Higher Order Equations with Factoring
		Solve Equations Quadratic in Form by Factoring
	Fri, Sep 13	Solve Radical Equations
		Solve Other Types of Equations
4	Mon, Sep 16	Interval Notation and Inequalities
		Absolute Value Equations and Inequalities
	Wed, Sep 18	Relations and Functions
		One-to-One Functions
	Fri, Sep 20	Function Notation
		Domain and Range of Functions
5	Mon, Sep 23	Exam 1
	Wed, Sep 25	Piecewise Functions
		Graphical Properties of Functions
	Fri, Sep 27	Difference Quotients
		Even and Odd Functions
		Transformations of Functions
6	Mon, Sep 30	Graph Absolute Value Functions
		Cartesian Coordinates and Distances
		Graphs of Circles
	Wed, Oct 02	Combinations of Functions
		Evaluate Composite Functions
	Fri, Oct 04	Properties of Composite Functions
		Inverse Function Values
7	Mon, Oct 07	Find Inverse Functions
		Characteristics of Parabolas
	Wed, Oct 09	Applications of Quadratic Functions
		Graphing Quadratic Equations (10.5 from support course)
	Fri, Oct 11	SPC Fall Break

8	Mon, Oct 14	Exam 2
	Wed, Oct 16	Synthetic Division and Remainder Theorem
		Rational Zeros of Polynomial Functions
	Fri, Oct 18	End Behavior of Polynomial Functions
		Local Behavior of Polynomial Functions
		Write and Graph Polynomial Functions
9	Mon, Oct 21	Asymptotic Behavior of Rational Functions
		Graphs and Applications of Rational Functions
	Wed, Oct 23	Evaluate and Write Exponential Functions
		Applications of Exponential Functions and Base e
	Fri, Oct 25	Exponential Function Graphs
10	Mon, Oct 28	Relate Logarithms and Exponents
	Wed, Oct 30	Evaluate Logarithmic Expressions
	Fri, Nov 01	Logarithmic Function Graphs
11	Mon, Nov 04	Exam 3
	Wed, Nov 06	Basic Properties of Logarithms
		Rewrite Logarithmic Expressions Using Properties
	Fri, Nov 08	Solve Exponential Equations
12	Mon, Nov 11	Solve Logarithmic Equations
	Wed, Nov 13	Graphing Systems of Linear Equations
		Solving Systems of Linear Equations
	Fri, Nov 15	Applications of Systems of Linear Equations
13	Mon, Nov 18	Systems of Linear Equations in Three Variables
	Wed, Nov 20	Systems of Two Nonlinear Equations
		Linear Inequalities in Two Variables
	Fri, Nov 22	Rational and Quadratic Inequalities
14	Mon, Nov 25	Exam 4
	Wed, Nov 27	Thanksgiving Break
	Fri, Nov 29	Thanksgiving Break
15	Mon, Dec 02	Solving Systems with Gaussian Eliminations
	Wed, Dec 04	Finding Determinants of Matrices
		Solving Systems with Cramer's Rule
	Fri, Dec 06	Binomial Expansion
16	Mon, Dec 09	Final Exam: 8:00 to 10:00