



RANGER COLLEGE  
STEPHENVILLE, TEXAS

---

COURSE SYLLABUS

**COLLEGE ALGEBRA**

**MATH 1314**

**3 credit hours**

**SPRING 2021**

**INSTRUCTOR:**

**JESSICA BROWN**

INSTRUCTOR: Jessica Brown  
EMAIL: jbrown@rangercollege.edu  
OFFICE: Stephenville Faculty Offices  
PHONE: 254-918-7232  
HOURS: Monday – Thursday 10:30 -12:15

### **I. Texas Core Curriculum Statement of Purpose**

Through the Texas Core Curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world, develop principles of personal and social responsibility for living in a diverse world, and advance intellectual and practical skills that are essential for all learning.

### **II. 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.

### **III. Required Background or Prerequisite**

A TSI score of 350 or higher (TSI 2.0: less than 950 and diagnostic level of 6 or greater than 950) or co-enrollment in the appropriate developmental math course.

### **IV. Required Textbook and Course Materials**

College Algebra – Lumen Learning  
TI-84+ or a similar graphing calculator.  
Printed notes from Blackboard.  
Access to the online learning system through Lumen Learning.

### **V. Course Purpose**

This course focuses on quantitative literacy in logic, patterns, and relationships. The course involves the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experiences.

### **VI. Learning Outcomes**

Upon successful completion of this course, the student 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.

## VII. Core Objectives

This course meets the following of the six Core Objectives established by Texas:

- Critical Thinking Skills (CT)** – Creative thinking, innovation, inquiry, and analysis; evaluation and synthesis of information
- Communication Skills (COM)** – effective development, interpretation and expression of ideas through written, oral, and visual communication
- Empirical and Quantitative Skills (EQS)** – The manipulation and analysis of numerical data or observable facts resulting in informed conclusions
- Teamwork (TW)** – The ability to consider different points of view and to work effectively with others to support a shared purpose or goal
- Social Responsibility (SR)** – Intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities
- Personal Responsibility (PR)** – The ability to connect choices, actions, and consequences to ethical decision-making

## VIII. Methods of Instruction

The instructional delivery of this class may be face-to-face, online, or hybrid. Students may be expected to watch instructional videos outside class, attend Zoom class sessions, work in groups via Zoom, or attend regular class in person. Students are also expected to complete assignments online through Blackboard and Lumen.

## IX. Methods of Assessment

- Homework (and other formative assessments – CT, COM, EQS, PR): 30%
  - This average will come from an overall mean score from the online homework system.
    - A formative assessment can include homework, quizzes, class discussions, group work, and other in-class assignments.
- Unit Tests (and other summative assessments – CT, COM, EQS, PR): 45%
  - A minimum of 3 summative assessments will be administered online, in-person, or through a project.
    - A summative assessment can include projects, discussion boards, video submissions, etc.
- 1 proctored exam (CT, COM, EQS, PR): 25%

- The final will be a proctored exam. This will be a cumulative exam of material covered up until the time of the exam.

**Grading scale: A = 90-100%   B = 80-89   C = 70-79   D = 60-69   F = Below 60**

## **X. Course/Classroom Policies**

**Class participation** is strongly encouraged for optimal learning.

**Absences** – A student WILL be dropped from the course after the sixth absence from class.

**Make up assignments** – Make up exams will be given on a case-by-case basis. Homework will not be opened up after the final exam starts.

**Test Corrections** – No test corrections will be given unless otherwise stated by instructor.

**Homework** – Homework due dates will not be extended unless the course calendar changes. Anything completed after the initial due date has a 10% late penalty deducted.

**Tests** – Tests may be administered in class or online. You will know ahead of time which method is being used. No cell phones may be used on the test. If a student is caught using a cell phone, the instructor may take the test and deduct points from the score.

**Academic Dishonesty** - A student found to be cheating or copying on an exam or quiz will be given a grade of “0”. Repeated acts of cheating may result in being dropped from class with a grade of “F”.

**Student Behavior** - Students will behave as mature adults and exhibit proper classroom decorum. Students will not cause any distractions that might prevent other students from learning. Students that deviate from this policy will not be permitted to remain in class.

**Cell phones** - students are encouraged to step outside when receiving phone calls. Cell phones CANNOT be used on a test and are discouraged during notes and practice.

**Calculators** – please purchase a handheld calculator to use in class (you may not use your phone as a calculator). A TI-84+ is recommended for use in this course. If you cannot purchase your own calculator, you may borrow one from the school.

**Available Support Services** - the Learning Resource Center has books, videos, and computer software that may be used as a supplement for this class. Tutors are also available (see counselor).

**XI. Course Outline/Schedule**

Week	Monday/Tuesday	Wednesday/ Thursday
Week 1: Jan 18	Holiday/First day	First day/Function Basics
Week 2: Jan 25	Function Basics, Function Notation, Evaluating Functions	Interval Notation Analyzing Graphs <b>Unit 1 Test Online</b>
Week 3: Feb 1	Linear Equations and Slopes, Parallel and perpendicular lines	Linear Inequalities, Absolute Value Inequalities
Week 4: Feb 8	Solving Systems (2), Applications of Systems	Systems of Inequalities, Solve systems (3)
Week 5: Feb 15	Use Matrices to Solve Systems	<b>Unit 2 Test</b>
Week 6: Feb 22	Transformations of Parent Functions	Factoring Quadratics, Imaginary Numbers
Week 7: Mar 1	Complete the Square Vertex	Quadratic Formula
Week 8: Mar 8	<b>SPRING</b>	<b>BREAK</b>
Week 9: Mar 15	Review <b>Unit 3 Test Online</b>	Graphs of Polynomials
Week 10: Mar 22	Dividing Polynomials	Zeroes of Polynomials
Week 11: Mar 29	Rational Functions	Rational Functions continued
Week 12: Apr 5	Composition of Functions, Inverse Functions	Exponential Functions <b>Unit 4 Test Online</b>
Week 13: Apr 12	Exponential and Log Properties	Exponential and Log Equations
Week 14: Apr 19	Exponential and Log Models	Exponential and Log Models
Week 15: Apr 26	Review	Flex day

Week 16: May 5	FINAL	EXAMS
----------------	-------	-------

Unit 1 assignments due: February 1

Unit 2 Homework due: February 18

Unit 2 Test will be taken in class.

Unit 3 Homework due: March 16

Unit 3 Test online due: March 22

Unit 4 Test online due April 13

Unit 5 will be tested on the final exam but assignments are due the last week in April.

Final exam will be taken in class.

\*\*You may complete the assignments late for a 10% penalty on questions completed after the due date.

### **XII. Non-Discrimination Statement**

Admissions, employment, and program policies of Ranger College are nondiscriminatory in regard to race, creed, color, sex, age, disability, and national origin.

### **XIII. ADA Statement**

Ranger College provides a variety of services for students with learning and/or physical disabilities. Students are responsible for making initial contact with the Ranger College Counselor, Gabe Lewis (glewis@rangercollege.edu). It is advisable to make this contact before or immediately after the semester begins.