



RANGER COLLEGE  
STEPHENVILLE, TEXAS

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COURSE SYLLABUS

**INTERMEDIATE ALGEBRA**

**MATH 0314**

**3 credit hours**

**SPRING 2021**

**INSTRUCTOR:**

**Jessica Brown**

## MATH 0314

INSTRUCTOR: Jessica Brown  
EMAIL: jbrown@rangercollege.edu  
OFFICE: Erath County – faculty offices  
PHONE: 254-918-7232  
HOURS: MTWR: 10:30 – 12:15

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

The purpose of Developmental Mathematics is to help students improve basic mathematics skills. The aim of Developmental Mathematics is to prepare students, so that they can be successful in academic courses at the college level to meet the requirements of the Texas Success Initiative. Based on holistic placement, using diverse data for developmental studies placement, a student is placed in MATH 0342, MATH 0314, or NCBM (course-pairing). A student placed in developmental mathematics coursework is able to advance, either to an advanced level or out of developmental mathematics, by passing the TSI Math assessment or achieving a 70% or better in his/her respective MATH coursework.

### **II. Course Description**

0314 – Intermediate Algebra (3-1) 3201045219 Reviewing of factoring and special structures. Functions and equations as followings: rational, radical, root, and quadratics. Systems of linear equations and inequalities in two and three variables. Non-linear inequalities. Credit 3 semester hours. In order to move beyond developmental mathematics (0314) and into first college-level mathematics coursework, a student must achieve a 70% or better in class, with the one proctored exam accounting for 25% of the overall grade, OR successfully pass the TSI Math assessment. Failure to obtain either academic stipulation will result in repeating 0314.

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

The student has scored between a 340 and 349 on the TSI (TSI 2.0: less than 950 and a diagnostic score 2 – 5) or has not taken the TSI.

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

- Access to Blackboard
- Lumen OHM login and access to coursework
- Handheld calculator (TI-83, 84, or Nspire are recommended).
- Notes printed from Blackboard

### **V. Course Purpose**

Courses in Mathematics focus on quantitative literacy in logic, patterns, and relationships. Courses involve the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experience. At the completion of this course, the student should be prepared to succeed in College Algebra.

## VI. Learning Outcomes

Upon successful completion of this course, students will:

1. Use appropriate symbolic notation and vocabulary to communicate, interpret, and explain mathematical concepts.
2. Define, represent, and perform operations on real numbers, applying numeric reasoning to investigate and describe quantitative relationships and solve real world problems in a variety of contexts.
3. Use algebraic reasoning to solve problems that require ratios, rates, percentages, and proportions in a variety of contexts using multiple representations.
4. Apply algebraic reasoning to manipulate expressions and equations to solve real world problems.
5. Use graphs, tables, and technology to analyze, interpret, and compare data sets.
6. Construct and use mathematical models in verbal, algebraic, graphical, and tabular form to solve problems from a variety of contexts and to make predictions and decisions.

**Student Learning Outcomes and Learning Objectives as defined by Ranger College:** At the end of the semester the student will be able to demonstrate the abilities to work with: 1

1. Polynomial Expressions: Perform algebraic operations, factor, and solve polynomial equations and inequalities.
2. Rational Expressions: Simplify, perform algebraic operations, and solve rational equations and inequalities.
3. Radical Expressions: Simplify, perform algebraic operations, and solve radical equations and inequalities.
4. Systems of Equations: Solve problems involving systems of equations and inequalities.
5. Word Problems and Applications: Students effectively model verbal information with algebraic equations and inequalities and interpret the solutions.

## 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 OHM.

### **IX. Methods of Assessment**

In order to be successful in Foundations of Math, a student must achieve a 70% OR successfully pass the TSI Math assessment. Failure to obtain either academic stipulation will result in repeating the course.

- 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 class discussions, group work, and other in-class assignments.
      - Most homework will be done during class.
        - If you miss class, you must complete the make up assignment by the due date. Late submission will result in a 10% penalty.
        - If you do both the in class assignment and the make up assignment, both grades will be factored into your overall homework average.
- Unit Tests or Quizzes (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.
    - Quizzes might be administered online (at home) or in person.
      - The instructor will let the student know ahead of time which mode of assessment will be used.
    - A summative assessment can include projects, discussion boards, video submissions, etc.
- 1 Proctored Exam (CT, COM, EQS, PR): 25%
  - The final exam will be a proctored exam administered at the end of the semester. 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 assignments are available for students who miss the in-class assignment. This must be completed to earn credit for the missed class day.

**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 class. 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	WEDNESDAY
Week 1 January 19	MLK DAY – NO SCHOOL	First day info Student contact info
Week 2 January 26	Domain and Range from a graph and a relation Domain and Range: interval notation and parent functions	Function notation and evaluating functions (algebraic, table, and graph)
Week 3 February 2	Writing Equations of Lines Functions Quiz Online	Solving and graphing compound linear inequalities on a number line (interval notation)
Week 4 February 9	Systems: Substitution	Systems: Elimination
Week 5 February 16	Graphing Quadratics (plotting points, finding vertex) Linear Functions Quiz online	Factoring Quadratics
Week 6	Solve by Factoring	Solve Using Quadratic Formula (decimal)

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February 23		answers)
Week 7 March 2	Quadratics: Putting it all together	Quadratics Quiz in class
Week 8 March 9	SPRING	BREAK
Week 9 March 16	Polynomial Basics (defn, degree, end behavior, basic operations)	Finding the zeroes of a polynomial when given one zero
Week 10 March 23	Graphing Polynomials Polynomial Quiz Online	Simplifying Rational Expressions
Week 11 March 30	Multiply Rational Expressions	Add Rational Expressions
Week 12 April 6	Domain of Rational Functions (asymptotes)	Sketch Rational Functions Rationals Quiz
Week 13 April 13	Simplifying Square Roots	Adding Square Roots
Week 14 April 20	Multiplying Square Roots	Dividing Square Roots (conjugates)
Week 15 April 27	Review and Catch Up	Review and Catch Up
Week 16 May 4	Final	Exams

### 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.