RANGER COLLEGE

STEPHENVILLE, TEXAS

COURSE SYLLABUS

# INTERMEDIATE ALGEBRA

# MATH 0314 - FALL 2021

**3 credit hours**

**INSTRUCTOR:**

**Krystal Ostdiek**

INSTRUCTOR: Krystal Ostdiek
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HOURS:Email to set up an appointment.

## 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 c 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, with the final exam accounting for 25% of his/her overall grade.

## 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 mid-term 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

Student has credit for Algebra I and Algebra II and has met the passing standard for the Algebra I end of course exam. Students may show mastery of Transition to Math Course through their score on TSI.

## IV. Required Textbook and Course Materials

- Access to Blackboard.
- Lumen OHM username and password. Will be created during week 1.
- Handheld calculator (TI-83, TI-84, or TI-Nspire are recommended).
- Notes printed from Blackboard if applicable.

## 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. 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 solution.

## 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.

- Online Homework (and other formative assessments – CT, COM, EQS, PR): 30% ○ This average will come from an overall mean score from the online homework system.
- 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.
- Final Exam (CT, COM, EQS, PR): 25%
  ○. This will be a cumulative exam of material covered up until the time of the exam.

**<u>Grading scale:</u> 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 will be given on a case-by-case basis. Homework will not be opened up after the final due date.
**Test Corrections –** No test corrections will be given unless otherwise stated by the instructor.
**Homework –** Homework due dates will not be extended. 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 –** A TI-84+ is recommended (but not required) 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 (Stats)** | **M/T** | **W/R** | **Homework due by 11:59 Sunday** |
|---|---|---|---|
| Week 1 (August 23-August 29) | First Day Information | Linear Inequalities | |
| Week 2 (August 30-September 5) | Linear Inequalities | Graphing Linear equations and Inequalities | |
| Week 3 (September 6-September 12th) | Graphing Linear equations and Inequalities | Functions | |
| Week 4 (September 13th-September 19) | Functions | Function Notation | |
| Week 5 (September 20th-September 26th) | Graphs of Linear Functions | Graphs of Linear Functions | |
| Week 6 (September 27th- October 3rd) | Linear Systems | Linear Systems | |
| Week 7 (October 4th-October 10th) | Project | Project | All Modules 2-6 |
| Week 8 (October 11th-October 17th) | Exponents | Exponents | |
| Week 9 (October 18th-October 25) | Polynomials | Polynomials | |
| Week 10 (October 26th-October 31st) | Polynomial Functions | Factoring GCF | |
| Week 11 (November 1- November 7th) | Factoring Trinomials | Factoring Trinomials | |
| Week 12 (November 8th-November 14th) | Rational Expressions | Rational Equations | |
| Week 13 (November 15th-November 21) | Roots | Quadratic Equations | |
| Week 14 (November 22-November 28) | **Thanksgiving Break** | **Thanksgiving Break** | |
| Week 15 (November 29-December 5th) | Quadratic Equations | REVIEW | Module 7-12 |
| Week 16 (December 6th-December10) | REVIEW | FINAL EXAMS | 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.