



RANGER COLLEGE

COURSE SYLLABUS

Foundations in Mathematics

MATH 0342

3 credit hours

[Semester]

INSTRUCTOR:

Rebecca Plowman

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HOURS: TBA

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

DEVELOPMENTAL MATHEMATICS (DMAT)

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

0342 – Foundations in Mathematics (3-3) 3201045119 The Real numbers and their properties and operations. Introduction to functions and notation. Solving and graphing linear equations and inequalities and applications. Systems of linear equations and inequalities. Exponents and polynomials. Factoring techniques including special structures. Credit 3 semester hours. In order to move to the highest level of developmental math (0323), a student must achieve a 70% or better in class, with the final 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 0342.

III. Required Background or Prerequisite

Student has credit for Algebra I and Geometry and has met the passing standard for the Algebra I End of Course exam.

IV. Required Textbook and Course Materials

My Math Lab (MML) with ETEXT can be purchased through Pearson on Blackboard or the bookstore online or in person.

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 MATH 0314 and 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.

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

Face-to-face, online components, web based discussions, videos and chats.

IX. Methods of Assessment

In order to move to the highest level of developmental MATH 0314 and/or to pass a corequisite course, a student must achieve a 70% or better for an overall grade, with the final 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 the course.

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

- **Quizzes (25%) (CT, COM, EQS, PR)**-There will be 3 – 5 short in-class quizzes which usually include verbal response items as well as typical numerical and algebraic problems. If you are absent the day of a quiz, you have only one week to come in and take the quiz.
- **Homework (10%) (CT, COM, EQS, PR)**- MyMathLab is an online homework system. Assignments will be assigned after material is covered in class. The overall grade you receive on the homework will be your homework grade. This will require you to purchase a code through the bookstore or through Pearson when creating an account. (Codes can be purchased cheaper through Amazon or other sites, however you must be careful and see that you order the correct code. Some students have discovered cheaper apps as well.) To create your MyMathLab account, you must access MyMathLab through your course on Blackboard.
- **Major Exams (40%) (CT, COM, EQS, PR)**-There will be 3 exams, each covering multiple chapters from the textbook. If you are absent the day of an exam, you have only one week to come in and take the exam. The exam will take place during the first 90 minutes of class.
- **Final Exam (25%) (CT, COM, EQS, PR)**-This exam will be comprehensive departmental final over the entire course content.

X. Course/Classroom Policies

Class participation is strongly encouraged for optimal learning.

No calculators.

Assignments should be completed in pencil.

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.

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).

Passing the Math portion of the TSI - Students who pass the TSI during the semester will have the option of dropping the class with a “W” or negotiating with the instructor a grade in class. The class may not be dropped if the student has not completed all portions of the TSI and the student is not enrolled in another developmental class.

XI. Course Outline/Schedule

Weeks 1-4: UNIT 1: Math language, algebraic field properties, number sets, formulas, solving problems

Weeks 5-8: UNIT 2: Graphs, tables, charts, proportions, linear equations, linear inequalities.

Weeks 9-11: UNIT 3: Combinatorics, probability and statistics basics

Weeks 13-14: UNIT 4: Measurement conversion, perimeter, area, volume, factoring

Week 15: Final

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.