RANGER COLLEGE

RANGER, TEXAS

COURSE SYLLABUS

College Mathematics

MATH 1332

3 credit hours

FALL 2021

INSTRUCTOR:

Rebbecca Plowman

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EMAIL: rplowman@rangercollege.ede
OFFICE: Stephenville Faculty Offices and Elsom Building Rm 6, Ranger Campus
PHONE: 254-595-2008 (text before calling)
HOURS: Main Campus: M/W 8:40 to 9:10am and 1:40 to 2:40pm
       Erath Center: T/TH 8:30 to 10:30 and Tues 1:30 to 3:00

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

Intended for Non STEM (Science, Technology, Engineering, and Mathematics) majors. Topics include introductory treatments of sets and logic, financial mathematics, probability and statistics with appropriate applications. Number sense, proportional reasoning, estimation, technology, and communication should be embedded throughout the course. Additional topics may be covered.

III. Required Background or Prerequisite

A TSI score of 350 or higher or co-enrollment in the appropriate developmental math course.

IV. Required Textbook and Course Materials

TI-84+ or a similar graphing calculator.
Access Code to the online learning system through MyMathLab

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. Apply the language and notation of sets.

   2. Determine the validity of an argument or statement and provide

   mathematical evidence. 3. Solve problems in mathematics of finance.

4. Demonstrate fundamental probability/counting techniques and apply those techniques to solve problems. 5. Interpret and analyze various representations of data.

6. Demonstrate the ability to choose and analyze mathematical models to solve problems from real-world settings, including, but not limited to, personal finance, health literacy, and civic engagement.

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): 25% o This average will come from an overall mean score from the online homework system. All homework is available on Blackboard.

- Chapter Tests (and other summative assessments – CT, COM, EQS, PR): 25% o After each Chapter is complete, we will have a paper exam on the material from only chapter.

- Research Papers and/or Projects (CT, COM, EQS, PR): 25%
    o You will have two or three research papers or projects to complete throughout the course. The purpose of the papers or projects are to learn research skills

and discover a personal appreciation of mathematics.

• Final Exam (CT, COM, EQS, PR): 25%
> o 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 Work – There will be no make up work. You will be given over a week to complete assignments and quizzes. The midterm exam can be taken late if you are ill, but that decision is at the discretion of the instructor. The final exam cannot be taken late.
Test Corrections – No test corrections will be given unless otherwise stated by the instructor.
Homework – Homework will be due two Sundays after the material is covered in class. Due dates may change if the instructor finds it necessary.
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.
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).

Instructions and assessment methods may change due to complications caused by the ongoing Covid-19 pandemic.

XI. Course Outline/Schedule

Week	Material
Week 1:Aug 23rd	Chapter 2: Set Theory Section 2.1 Terminology and Set notation
Week 2: Aug 30th	Chapter 2: Set Theory Section 2.2 and 2.3 Venn Diagrams, Subset, and Set Operations

Week 3: Sept 7th	Chapter 3: Introduction to Logic Section 3.1 and 3.2 Statement, Quantifiers, and Truth Tables **Set Theory Test**
Week 4: Sept 13th	Chapter 3: Introduction to Logic Section 3.2, 3.3, and 3.4 Continue Truth Tables, Equivalent Statements
SeWeek 5: Sept 20th	Chapter 3: Introduction to Logic Section 3.5 and 3.6 Analysing Statements Chapter 10: Counting Methods Section 10.1 and 10.2 Counting Using Systematic Listing and Fundamental Counting Principle
Week 6: Sept 27th	Chapter 10: Counting Methods Section 10.3 and 10.5 Permutations, Combinations, and Problems Involving "not" and "or" **Logic Test**
Week 7: Oct 4th	Chapter 11: Probability Section 11.1 and 11.2 Terminology, Notations, and "Or" and "And" Events. **Counting Methods Test**
Week 8: Oct 11th	Chapter 11: Probability Section 11.3 and 11.4 Conditional Probability and Binomial Probability Chapter 12: Statistics Section 12.1 Visual Displays
Week 9: Oct 18th	Chapter 12: Statistics Sections 12.2, and 12.3 Measures of Central Tendency and Measure of Dispersion. **Probability Test**
Week 10: Oct 25th	Chapter12: Statistics Section 12.4 and 12.5 Measure of Position and Normal Distributions Chapter 13: Personal Finance Management. Section 13.1 Simple or Compound Interest

Week 11: Nov 1st	Chapter 13: Personal Finance Management Sections 13.2 and 13.4 Consumer Credit, Loans and Mortgages **Statistic Test**
Week 12: Nov 8th	Chapter 13: Personal Finance Mangagement Section 13.5 Investments Chapter 5: Number Theory Sections 5.1 and 5.2 Prime and Composite Numbers and Large Primes
Week 13: Nov 15th	Chapter 5: Number Theory Section 5.3, 5.4, and 5.5 GCF, LCM, Number Theory Topic, and Fibonacci **Finance Test**
Week 14: Nov 22nd	Thanksgiving Break
Week 15: Nov 29th	Review **Number Theory Test**
Week 16: Dec 6th	Monday: Review **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.