

Midland College Syllabus

2021-2022

MATH 1332 - WEB

Quantitative Reasoning

3 Semester Credit Hours

(3 Lecture/0 Lab)

Core Curriculum Course

Instructor Information:

Instructor: [Click here to enter text.](#)

Phone: [Click here to enter text.](#)

Office Hours: [Click here to enter text.](#)

Office: [Click here to enter text.](#)

Email: [Click here to enter text.](#)

Notice: Students MUST actively participate by completing an academic assignment required by the instructor by the official census date. Students who do not actively participate in an academically-related activity will be reported as never attending and dropped from the course.

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 communications should be embedded throughout the course. Additional topics may be covered.

A final project applying the techniques and analysis described in the above course description is required.

Core Objectives:

This course fulfills the three-hour Mathematics requirement in the Midland College Core Curriculum. The Core Curriculum is a set of courses that provide students with a foundation of knowledge, skills and educational experiences that are essential for all learning. The Core Curriculum is available in the [Midland College Catalog](#). As part of the core, this course addresses the following three objectives:

Critical Thinking Skills – Students will demonstrate critical thinking skills by analyzing and applying concepts of sets, logic and statistical reasoning to mathematical situations in course assignments and exams.

Communication Skills – Students will demonstrate communication skills in written, oral, and visual form within the classroom setting in the areas of sets, logic, finance, statistics and probability through instructor posed questions, collaborative peer assignments, and exams.

Empirical and Quantitative Skills – Students will demonstrate empirical and quantitative skills by analyzing real-world applications of functions, financial management, and probability through course assignments and exams.

Text, References and Supplies:

- Bolker, E. D., and Mast, M. B., Common Sense Mathematics, 2nd ed, American Mathematical Society
 - ISBN: 978-1-4704-6143-8
- Scientific calculator
- Computer access is required.

Student Learning Outcomes:

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.

Student Contributions, Responsibilities and Class Policies:

Students will be expected to comply with the policies outlined in the [Midland College Catalog](#). Instructor policies concerning attendance and academic behavior are consistent with the policies in the student handbook.

Attendance Policy:

This course is conducted online. Students are expected to fully participate in the course by logging into Canvas at least twice per week. This is NOT a self-paced course. Refer to the [Midland College Catalog](#) for more information.

Your lecture instructor will inform you on the first day of class as to the tentative dates and content for each exam. Students are expected to complete each exam. Your instructor will inform you on the first day of class as to make-up procedures for missed exams and any exemption procedures if they apply (See Instructor Handout).

Withdrawal Policy:

Students who have enrolled in a Texas public institution of higher education as a first-time freshman in fall 2007 or later are permitted to drop no more than six courses during the entire undergraduate career. This limit includes all transfer work taken at a Texas institution of higher education and to second baccalaureate degrees. This statute was enacted by the State of Texas in spring 2007 (Texas Education Code 51.907). Any course that a student drops after Census Day is

counted toward the six-course limit if "(1) the student was able to drop the course without receiving a grade or incurring an academic penalty; (2) the student's transcript indicates or will indicate that the student was enrolled in the course; and (3) the student is not dropping the course in order to withdraw from the institution." Please visit the [Midland College Catalog](#) for more information.

Scholastic Dishonesty:

Midland College does not tolerate scholastic dishonesty or academic misconduct in any form. Please read the Student Rights & Responsibilities section in the [Midland College Catalog](#) for more information.

Evaluation of Students:

Students will be evaluated based on grades that may include the following but are not limited to:

Assessments	Percentage of Grade	Grade Range
Module Exams	20%	90-100 A
Project/Essays	45%	89-80 B
Assignments	10%	79-70 C
Final Exam	25%	69-60 D 59-0 F

Students will be evaluated based on the results of module assignments, online quizzes, and proctored module exams given throughout the semester. Students are expected to complete each assignment.

Course Schedule:

This class meets for an equivalent of 3 contact hours per week. For a tentative schedule of the class material to be covered, please refer to the schedule provided in Canvas.

Course Outline:

Chapter 1: Calculating the Back of an Envelope
Chapter 2: Units and Unit Conversion
Chapter 3: Percentages, Sales Tax, and Discounts
Chapter 4: Inflation
Chapter 5: Average Values
Chapter 6: Income Distribution – Spreadsheets, Charts, and Statistics
Chapter 7: Electricity Bills and Income Taxes – Linear Functions
Chapter 9: Compound Interest – Exponential Growth
Chapter 10: Borrowing and Saving
Chapter 11: Probability – Counting, Betting, Insurance
Chapter 12: Break the Bank – Independent Events
Chapter 13: How Good Is That Test?

Non-Discrimination Statement

Midland College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following individual has been designated to handle inquiries regarding the non-discrimination policies:

Tana Baker

Title IX Coordinator/Compliance Officer

3600 N. Garfield, SSC 131

Midland, Texas 79705

(432) 685-4781

tbaker@midland.edu

For further information on notice of non-discrimination, visit the ED.gov Office of Civil Rights website, or call 1 (800) 421-3481.

Americans with Disabilities Act (ADA) Statement:

Midland College provides services for students with disabilities through Student Services. In order to receive accommodations, students must visit www.midland.edu/accommodation and complete the Application for Accommodation Services located under the Apply for Accommodations tab. Services or accommodations are not automatic, each student must apply and be approved to receive them. All documentation submitted will be reviewed and a "Notice of Accommodations" letter will be sent to instructors outlining any reasonable accommodations.

Math & Science Division Information:

Division Office: AHSF 124

(432) 685-4561

Division E-Mail: mns@midland.edu

Department Chair: Dr. Krista Cohlmiia

(432) 685-4541

Dean: Dr. Miranda Poage

Secretary: Sarah Anderson

Clerk: Liliana Orcutt

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