

Midland College Syllabus

2021 - 2022

MATH 1324 - WEB

Mathematics for Business & Social Sciences

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:

The application of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value. Prerequisite: TSI complete in Math.

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 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 characteristics of linear, quadratic, polynomial, exponential and logarithmic functions, equations, and inequalities to construct graphs and tables, analyzing and applying linear programming and matrices to evaluate business, finance, economics and management application problems in course assignments, instructor created exams, and a departmental final exam.

Communication Skills – Students will demonstrate communication skills in written, oral, and visual form within the classroom setting 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 linear, quadratic, polynomial, exponential and logarithmic equations and functions, and systems of equations using matrices with emphasis on finance, management, economics and business applications through course assignments, instructor created exams, and a departmental final exam.

Text, References and Supplies:

- Lial, Hungerford, Holcomb, and Mullins Mathematics with Applications, 12th ed., Pearson.
 - 978-0-135-90428-2 (12 weeks)
- MyMathLab Access Code only
 - 978-0-134-85655-1 (24 weeks)
- Scientific Calculator
- Computer access may be required by some instructors.
- MyMathLab Access Code may be required by some instructors.

Student Learning Outcomes

Upon successful completion of this course, students will:

1. Apply elementary functions, including linear, quadratic, polynomial, rational, logarithmic, and exponential functions to solving real-world problems.
2. Solve mathematics of finance problems, including the computation of interest, annuities, and amortization of loans.
3. Apply basic matrix operations, including linear programming methods, to solve application problems.
4. Demonstrate fundamental probability techniques and application of those techniques, including expected value, to solve problems.
5. Apply matrix skills and probability analyses to model applications to solve real-world problems.

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 catalog. Regular attendance is required to do well in this class.

Students will be evaluated based on the results of module assignments, online quizzes, Midterm Exam(s), and a Final Exam given during the semester. Students are expected to complete each assignment. At least 70% of the course grade will come from proctored assignments.

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.

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](#).

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 which may including the following but are not limited to:

Assessments	Percentage of Grade	Grade Range
Module Assignments	50-80%	90-100 A
Midterm Exams	0-30%	89-80 B
Final Exam	20-25%	79-70 C
		69-60 D
		59-0 F

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:

Functions and Graphs

- 3.1 Functions
- 3.2 Graphs of Functions
- 3.3 Applications of Linear Functions
- 3.4 Quadratic Functions and Applications
- 3.5 Polynomial Functions
- 3.6 Rational Functions

Exponential and Logarithmic Functions

- 4.1 Exponential Functions with Applications
- 4.3 Logarithmic Functions

4.4 Exponential and Logarithmic Equations

Mathematics of Finance

- 5.1 Simple Interest and Discount
- 5.2 Compound Interest
- 5.3 Annuities, Future Value, and Sinking Funds
- 5.4 Annuities, Present Value, and Amortization

Systems of Linear Equations and Matrices

- 6.1 Systems of Two Linear Equations in Two Variables
- 6.2 Larger Systems of Linear Equations
- 6.3 Applications of Systems of Linear Equations
- 6.4 Basic Matrix Operations
- 6.5 Matrix Products and Inverses
- 6.6 Applications of Matrices

Linear Programming

- 7.1 Graphing Linear Inequalities in Two Variables
- 7.2 Linear Programming: The Graphic Method
- 7.3 Applications of Linear Programming

Sets and Probability

- 8.1 Sets
- 8.3 Introduction to Probability
- 8.4 Basic Concepts of Probability

Counting, Probability Distributions, and Further Topics in Probability

- 9.1 Probability Distributions and Expected Value

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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