

Midland College Syllabus

2021 - 2022

MATH 1314

College Algebra

3 Semester Credit Hours

(3 Lecture/0 Lab)

Core Curriculum Course

Instructor Information:

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

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

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

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

Office Hours: [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 may be reported as never attended and dropped from the course.

Course Description:

This course is designed to enable students to become proficient in the study and applications of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices. Additional topics such as sequences, series, probability, and conics may be included. Pre-requisite: 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 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 characteristics of polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices 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 polynomial, rational, radical, exponential and logarithmic functions, and systems of equations using matrices through course assignments, instructor created exams, and a departmental final exam.

Text, References and Supplies:

- Sullivan, MyLab Math with Pearson eText-18 week for College Algebra, 11th ed., Pearson.
 - ISBN: 978-0-136-48315-1
- Scientific calculator (Non-Graphing)
- Computer access

Student Learning Outcomes

Upon successful completion of this course, students will:

1. Demonstrate and apply knowledge of properties of functions, including domain and range, operations, compositions, and inverses.
2. Recognize and apply polynomial, rational, radical, exponential and logarithmic functions and solve related equations.
3. Apply graphing techniques.
4. Evaluate all roots of higher degree polynomial and rational functions.
5. Recognize, solve and apply systems of linear equations using matrices.

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 assessments outlined in the syllabus and Instructor Handout.

Attendance Policy:

It is the responsibility of the students to know the policies and procedures associated with absences. These policies are set by instructors. Excused absences may include, but are not limited to, illness, severe weather, and death in the family. Instructors will determine whether or not an absence is excused. Please visit the [Midland College Catalog](#)

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 include the following but are not limited to:

Assessments	Percentage of Grade	Grade Range
Exams	45-80%	90-100 A
Quizzes/Assignments	0-30%	89-80 B
Final Exam	20-35%	79-70 C
		69-60 D
		59-0 F

At least 70% of the course grade will come from proctored assignments. 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).

Course Schedule:

This class meets for 3 contact hours per week. For a tentative schedule of the class meetings and material to be covered during those meetings, please refer to the schedule distributed to each student on the first class meeting (See Instructor Handout).

Common Assessment:

All sections of this course have a common assessment. The common assessment for this course is shown in the schedule and is noted as such (see Instructor Handout).

Course Outline:

Chapter 1

Section 1.2 Quadratic Equations

Section 1.3 Complex Numbers; Quadratic Equations in the Complex Number System

Section 1.4 Radical Equations; Equations Quadratic in Form; Factorable Equations

Chapter 2

Section 2.2 Graphs of Equations in Two Variables; Intercepts; Symmetry

Section 2.4 Circles

Chapter 3

Section 3.1 Functions

Section 3.2 The Graph of a Function

Section 3.3 Properties of Functions
Section 3.4 Library of Functions; Piecewise-defined Functions
Section 3.5 Graphing Techniques: Transformations

Chapter 4

Section 4.1 Properties of Linear Functions and Models
Section 4.3 Quadratic Functions and Their Properties
Section 4.4 Build Quadratic Models from Verbal Descriptions and from Data

Chapter 5

Section 5.1 Polynomial Functions
Section 5.2 Graphing of Polynomial Functions; Models
Section 5.3 Properties of Rational Functions
Section 5.4 The Graph of a Rational Function
Section 5.6 The Real Zeros of a Polynomial Function
Section 5.7 Complex Zeros; Fundamental Theorem of Algebra

Chapter 6

Section 6.1 Composite Functions
Section 6.2 One-to-One Functions; Inverse Functions
Section 6.3 Exponential Functions
Section 6.4 Logarithmic Functions
Section 6.5 Properties of Logarithms
Section 6.6 Logarithmic and Exponential Equations
Section 6.8 Exponential Growth and Decay Models

Chapter 8

Section 8.1 Systems of Linear Equations: Substitution and Elimination
Section 8.2 Systems of Linear Equations: Matrices

Chapter 9 (optional as time permits)

Section 9.1 Sequences
Section 9.2 Arithmetic Sequences
Section 9.3 Geometric Sequences; Geometric Series

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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