College Algebra MATH 1314 – Online Fall 2024

CREDIT
3 Semester Credit Hours (3 hours lecture)

MODE OF INSTRUCTION
Online

PREREQUISITE/CO-REQUISITE:
A score of 950 or above on the TSI-Assessment placement test or a "C" or better in TMTH 0375

COURSE DESCRIPTION
In-depth 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.

COURSE OBJECTIVES
Upon completion of this course, the student will be able to:

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.

Core Objectives

1. Critical Thinking Skills: To include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
2. Communication Skills: To include effective development, interpretation and expression of ideas through written, oral, and visual communication.
3. Empirical and Quantitative Skills: To include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

Approved: Initials/date

INSTRUCTOR CONTACT INFORMATION

Instructor:	Brandy Palmer
Email:	blcomer@lit.edu
Office Phone:	409-880-8919
Office Location:	Lamar University Lucas Engineering 211C
Office Hours:	T 845-915, 11:30-2:30 W 10:30 – 1130 R 845-915, 11:30-2:30

REQUIRED TEXTBOOK AND MATERIALS

1. College Algebra, by Sullivan, 11th edition with MyLabMath Access (18 week). You will access this material on the first day through Blackboard.
2. Calculator of your choice, but no phones or computers as calculators. A Scientific calculator is necessary, but you can upgrade to a graphing calculator if you wish.

ATTENDANCE POLICY

Online classes; do not attend class but are expected to login to blackboard at least 4 times a week and complete assignments prior to due date. Failure to complete assignments prior to due date will result in a 15 % penalty applied to all homework problems completed after the due date. Exams can not be submitted late without instructor permission and may require documentation like a doctor's note for makeups!

DROP POLICY

If you wish to drop a course, you are responsible for initiating and completing the drop process by the specified drop date as listed on the Academic Calendar. If you stop coming to class and fail to drop the course, you will earn an "F" in the course.

STUDENT EXPECTED TIME REQUIREMENT

For every hour in class (or unit of credit), students should expect to spend at least two to three hours per week studying and completing assignments. For a 3-credit-hour class, students should prepare to allocate approximately six to nine hours per week outside of class in a 16-week session OR approximately twelve to eighteen hours in an 8-week session. Online/Hybrid students should expect to spend at least as much time in this course as in the traditional, face-to-face class.

COURSE CALENDAR (Dates and assignments subject to change with notice)

Week	Assignment	Due Date (all assignments due by 11:59pm on due date)
Aug 26 - 30	Orientation/Review: Basic Concepts of Algebra 1.1 Linear Equations 1.2 Quadratic Equations	
Sep 2 - 6 Sep 2 is Labor Day Holiday, no classes	1.3 Complex numbers; Quadratic Equations in the Complex Number System 1.4 Radical Equations; Equations Quadratic in Form; Factorable Equations	
Sep 9- 13	1.5 Solving Inequalities 1.6 Equations and Inequalities Involving Absolute Value	
Sep 16 - 20	2.1 Distance and Midpoint Formulas 2.2 Graphs of Equations in Two Variables; Intercepts; Symmetry **Chapter 1 Test Wednesday, September 18**	All Chapter 1 Assignments due Monday, September 16
Sep 23 - Sep 27	2.3 Lines 3.1 Functions	
Sep 30 - Oct 4	3.2 Graph of a Functions 3.3 Properties of Functions	
Oct 7 - 11	3.4 Libraries of Functions; Piecewise-Defined Functions 3.5 Graphing Techniques	
Oct 14 -18	4.1 Linear Functions and Their Properties **Chapter 2/3 Test Wednesday, Oct 16**	All Chapter 2 and 3 Assignments due Monday, Oct 14
Oct 21 - 25	4.3 Quadratic Functions and Their Properties 5.1 Polynomial Functions and Models	
Oct 28 - Nov 1	5.5 Real Zeros of Polynomial Functions 5.6 Complex Zeros of; Fundamental Theorem of Algebra	
Nov 4 – 8	5.7 Complex Zeros 6.1 Composite Functions	
Nov 11 - 15	6.2 One-to-One Functions; Inverse Functions **Chapter 4/5 Test Wednesday, Nov 13**	All Chapter 4 and 5 Assignments due Monday, Nov 11
Nov 18 - 22	6.3 Exponential Functions 6.4 Logarithmic Functions 6.5 Properties of Logarithmic Functions	
Nov 25- 26	6.6 Logarithmic and Exponential Equations 6.7 Applications	
Dec 2 - 6	8.2 Systems of Linear Equations; Matrices **Chapter 6/8 Test Wednesday, Dec 4** Core Assignment Due.	All Chapter 6 and 8 Assignments due Tuesday, Dec 3
Dec 9	**Final Exam (Day and Time may change !)**	

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

- Tests 60%
- Assignments 20%
- Core Assignment 20%

GRADE SCALE

- 90-100 A
- 80-89 B
- 70-79 C
- 60-69 D
- 0-59 F

LIT does not use +/- grading scales

ACADEMIC DISHONESTY

Students found to be committing academic dishonesty (cheating, plagiarism, or collusion) may receive disciplinary action. Students need to familiarize themselves with the institution's Academic Dishonesty Policy available in the Student Catalog & Handbook at http://catalog.lit.edu/content.php?catoid=3&navoid=80#academic-dishonesty.

TECHNICAL REQUIREMENTS

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at https://lit.edu/online-learning/online-learning-minimum-computer-requirements. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

DISABILITIES STATEMENT

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email specialpopulations@lit.edu. You may also visit the online resource at Special Populations - Lamar Institute of Technology (lit.edu).

STUDENT CODE OF CONDUCT STATEMENT

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

ARTIFICIAL INTELLIGENCE STATEMENT

Lamar Institute of Technology (LIT) recognizes the recent advances in Artificial Intelligence (AI), such as ChatGPT, have changed the landscape of many career disciplines and will impact many students in and out of the classroom. To prepare students for their selected careers, LIT desires to guide students in the ethical use of these technologies and incorporate AI into classroom instruction and assignments appropriately. Appropriate use of these technologies is at the discretion of the instructor. Students are reminded that all submitted work must be their own original work unless otherwise specified. Students should contact their instructor with any questions as to the acceptable use of AI/ChatGPT in their courses.

STARFISH

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.

ADDITIONAL COURSE POLICIES/INFORMATION

Course Expectations

Instructor Expectations from Students:

- Weekly email communication regarding assignment and upcoming test due dates
- Response to email within 2 business days.
- Flexible office hour/ virtual help when needed.

Instructor Expectations of Students:

- Seek help from instructor early and often, do not wait until the last minute!
- The student will be expected to have access to the internet and their own computer.
- Plan ahead; if you will miss an exam, make prior arrangements to take it early or schedule a make-up date as soon as possible or you will earn a zero on the exam!
- When sending emails identify yourself with class and section