College Algebra (MATH 1314) **3D1 (11773)**

CREDIT

3 Semester Credit Hours (3 hours lecture, 0 Lab hours lab)

MODE OF INSTRUCTION: Lecture (Face-to-Face)

LAMAR INSTITUTE OF TECHNOLOGY

PREREQUISITE/CO-REQUISITE:
TSI Complete for Math

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 MEASURED

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: Irma Moulton

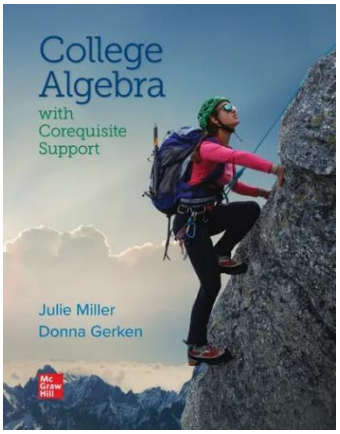
Email: ilmoulton@lit.edu

Office Phone: N/A

Office Location: Technology Center, Room 204

Office Hours: 5:00 PM to 5:30 PM

REQUIRED TEXTBOOK AND MATERIALS



1. 360 Days Access (Standard) $73.44
   ISBN10: 1264198434 I ISBN13: 9781264198436

(Comes inclusive with ELE bundle for $15 per SCH or $45)

2. Paper, pencils, and a scientific calculator, access to a computer with internet access. For the calculator, I recommend using a TI-30XIIS

ATTENDANCE POLICY

Attendance is required, online students should login and work on assignments 2-3 times per week, minimum.

DROP POLICY

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

COURSE CALENDAR

The Instructor reserves the right to change the detailed lesson plan below. Instructor will communicate changes when or if it happens.

Week Of:	*Sec*	*Topic*	*Homework due:*
1/20		Introductions (Discussion Board); Syllabus, Blackboard and Class Expectations.	1/27
1/27	3.3	Complex Numbers	2/3
1/27	3.6	Solving Quadratic Equations	
2/3	4.3	Rational Equations	2/10
2/3	4.5	Rational Exponents	
2/3	4.6	Radical Equations	
2/10	4.7	Equations in Quadratic Form	2/17
2/10	5.1	Rectangular Coordinate System and Graphing Utilities	
2/10	5.3	Functions and Relations	
2/17		**Module 1 Test**	2/17
2/24	5.4	Linear Equations in Two Variables	3/3
2/24	6.1	Transformations of Graphs	
2/24	6.2	Symmetry and Piecewise Functions	
3/3	6.4	Algebra of Functions and Function Composition	3/17
3/3	7.1	Quadratic Functions and Applications	
3/3	7.2	Introduction to Polynomial Functions	
3/10		Spring Break – Campus is Closed	
3/17	7.3	Division of Polynomial Functions and the Remainder and Factor Theorems	2/24
3/17	7.4	Zeros of Polynomials	
3/24		**Module 2 Test**	3/24
3/31	8.1	Introduction of Rational Functions	4/7
3/31	8.2	Graphs of Rational Functions	
3/31	9.1	Inverse Functions	
4/7	9.2	Exponential Functions	4/14
4/7	9.3	Logarithmic Functions	
4/14	9.4	Properties of Logarithms	4/21
4/14	9.5	Exponential Equations and Applications	
4/21	9.6	Logarithmic Equations and Applications	4/28
4/21	11.1	Solving Systems of Linear Equations Using Matrices	
4/28		**Module 3 Test**	4/28
5/5		Final Review	5/11
5/12		**Final Exam /Core Assessment**	5/12

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

- Test 60%
- Assignments 20%
- Core Assessment 20%

GRADE SCALE

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

TECHNICAL REQUIREMENTS

For the latest technical requirements, including hardware, compatible browsers, operating systems, etc., review the Minimum Computer and Equipment Requirements on the LIT Online Experience page. 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

Homework will be assigned each week as listed above in the detailed lesson plan. These assignments will be completed online in Aleks. In order to succeed in any math class, you must do the math. Mathematics is just like any sport, you learn through practice and repetition. It typically does not matter how good your notes are or how much effort you have put into asking for help, you have to practice it yourself. You will have access to the e-book in Aleks. You will also have access to author videos, YouTube Videos and PowerPoints all in folders in Couse Content of Blackboard. I am also very excited to tell you that there are free math tutors in the Eagle's Nest. You will have one week to work on each set of homework assignments. **Attendance is part of an assignment grade**. Pace yourself and do some each night. There is a deadline for each assignment. It does not matter if the internet goes out or some unforeseen circumstance pops up, the homework will not be extended past the due date. If the homework is done after the due date, 50% of your grade will be deducted from the late assignment. The last day to access all homework assignments will be a week before the end of the semester. There will also be online Reviews for each test in Aleks. The reviews are quiz grades, moreover these reviews / quizzes will not be open after their deadline. All exams will be taken in class on paper. Tests cannot be taken late as well.