# College Algebra (MATH 1314-2B1)

**CREDIT**

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

**MODE OF INSTRUCTION**
**Online**

**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**

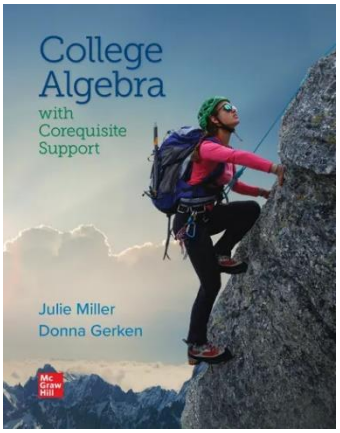
1. **Critical Thinking Skills**: To include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
2. **Communication Skills**: To include effective development, interpretation and expression of ideas through written, oral, and visual communication.
3. **Empirical 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: | Chris Sams |
| Email: | casams@lit.edu |
| Office Phone: | 409-247-5186 |
| Office Location: | TC Rm. 240 |
| Office Hours: | M: 9:30am-11:00am<br>MW: 1:30pm-2:30pm<br>TR: 8:00am-9:20am; 10:50am-12:10pm; 1:40pm-2:30pm<br>F: 8:00am-11:00am |


**REQUIRED TEXTBOOK AND MATERIALS**




360 Days Access (Standard) $73.44

ISBN10: 1264198434 I ISBN13: 9781264198436

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

1. Paper, pencils, and a calculator, access to a computer with internet access.

**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**

| *Week Of:* | *Sec* | *Topic* | *Homework due:* |
|---|---|---|---|
| 1/20 | | Self introduction (Blackboard) | Due 2/22 |
| | 3.3 | Complex Numbers | Due 2/22 |
| 1/26 | 4.3 | Rational Equations | Due 2/22 |
| | 3.6 | Solving Quadratic Equations | Due 2/22 |
| 2/2 | 4.5 | Rational Exponents | Due 2/22 |
| | 4.7 | Equations in Quadratic Form | Due 2/22 |
| 2/9 | 4.6 | Radical Equations | Due 2/22 |
| | 5.3 | Functions and Relations | Due 2/22 |
| 2/16 | 5.1 | Rectangular Coordinate System | Due 2/22 |
| | | **Module 1 Test** | **Due 2/22** |
| 2/23 | 5.4 | Linear Equations in Two Variables | Due 4/5 |
| | 6.2 | Symmetry and Piecewise Functions | Due 4/5 |
| 3/2 | 6.1 | Transformations of Graphs | Due 4/5 |
| | 7.1 | Quadratic Functions | Due 4/5 |
| **3/9** | | **Spring Break Campus Closed** | Due 4/5 |
| 3/16 | 6.4 | Function Composition | Due 4/5 |
| | 7.3 | Polynomial Division | Due 4/5 |
| 3/23 | 7.2 | Polynomial Functions | Due 4/5 |
| | 7.4 | Zeros of Polynomials | Due 4/5 |
| 3/30 | | **Module 2 Test** | **Due 4/5** |
| | 8.2 | Graphs of Rational Functions | Due 5/3 |
| 4/6 | 8.1 | Rational Functions | Due 5/3 |
| | 9.2 | Exponential Functions | Due 5/3 |
| 4/13 | 9.1 | Inverse Functions | Due 5/3 |
| | 9.4 | Properties of Logarithms | Due 5/3 |
| 4/20 | 9.5 | Exponential Equations and Applications | Due 5/3 |
| | 9.6 | Logarithmic Equations and Applications | Due 5/3 |
| 4/27 | 11.1 | Systems of Linear Equations Using Matrices | Due 5/3 |
| | | **Module 3 Test** | Due 5/3 |
| 5/4 | | Final Review | |
| | | **Final/Core Assessment** | **Due 5/10** |

**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**