College Algebra (MATH 1314-3C1)

LAMAR INSTITUTE OF TECHNOLOGY

INSTRUCTOR CONTACT INFORMATION

Instructor: Alfred de la Rosa, Jr.

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Office Phone: (409) 247-4757

Office Location: Building TA5, Room 103

Office Hours: Monday: 11:00 am-2:00 pm
Tuesday: 12:30 pm-1:00 pm; 2:30 pm-3:30 pm
Wednesday: 10:00 am-2:00 pm
Thursday: 12:30 pm-1:00 pm; 2:30 pm-3:30 pm
Friday: 10:00 am-1:00 pm

CREDIT

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

MODE OF INSTRUCTION

Face to Face

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.

Approved: Initials/date

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.

REQUIRED TEXTBOOK AND MATERIALS

1. *MyMathLab* standalone access
    a. ISBN 9780138254162
2. A basic scientific calculator. No graphing calculators or cell phone calculators are permitted.
3. Graph paper and a ruler.

Access to MyMathLab is available through the Eagle Learning Essentials (ELE) program at $14 per credit hour added to your student account. Students may opt out of this program if they do not wish to participate in it. The deadline for opting out during this 16-week course is February 5, 2025. For more information, please go to **https://www.lit.edu/student-success/eagle-learning-essentials**.

ATTENDANCE POLICY

This is a face-to-face lecture class. You will be required to sign a sign-in sheet at the beginning of each class period. **If you do not sign in, you will be marked absent.** If you are more than 15 minutes late for class, you will be marked tardy and will not be allowed to sign in. **A roll call may be given at the end of the class period to ensure accuracy of the sign-in sheet.**

During each class period, students will receive instruction based on lecture notes and prepared examples. After a module or unit has been completed, the instructor will give a test in class on the course material. Students who miss class, sleep in class, social network or text in class, or do not take their test will be counted absent for the day. Absences due to a valid reason such as an illness or emergency will be excused only if the student provides written documentation. *Exception: Medical or dental appointments that coincide with the class period will not be excused*.

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

DATE	TOPIC	READINGS (Due on this Date)	ASSIGNMENTS (Due on this Date)
1-21-25	Introduction and Classroom Policies; College Algebra Review; MyMathLab Registration; Section 1.1: Linear Equations	College Algebra Review Section 1.1 Notes **Tuesday, January 21, 2025**	College Algebra Review **Tuesday, January 28, 2025** MyMathLab, Section 1.1 **Wednesday, January 29, 2025**
1-28-25	Section 1.2: Quadratic Equations Section 1.3: Complex Numbers; Quadratic Equations in the Complex Number System	Section 1.2 Notes Section 1.3 Notes **Tuesday, January 28, 2025**	MyMathLab, Section 1.2 MyMathLab, Section 1.3 **Wednesday, February 5, 2025**
2-4-25	Section 1.4: Radical Equations; Equations Quadratic in Form; Factorable Equations Section 1.5: Solving Inequalities	Section 1.4 Notes Section 1.5 Notes **Tuesday, February 4, 2025**	MyMathLab, Section 1.4 MyMathLab, Section 1.5 **Wednesday, February 12, 2025**
2-11-25	Section 1.6: Equations and Inequalities Involving Absolute Value Section 1.7: Problem Solving: Interest, Mixture, Uniform Motion, Constant Rate Job Applications	Section 1.6 Notes Section 1.7 Notes **Tuesday, February 11, 2025**	MyMathLab, Section 1.6 MyMathLab, Section 1.7 **Wednesday, February 19, 2025**
2-18-25	Section 2.1: The Distance and Midpoint Formulas Section 2.2: Graphs of Equations in Two Variables; Intercepts; Symmetry Section 2.3: Lines	Section 2.1 Notes Section 2.2 Notes Section 2.3 Notes **Tuesday, February 18, 2025**	MyMathLab, Section 2.1 **Monday, February 24, 2025** MyMathLab, Section 2.2 MyMathLab, Section 2.3 **Monday, March 3, 2025**
2-25-25	Section 2.4: Circles	Section 2.4 Notes **Tuesday, February 25, 2025**	MyMathLab, Section 2.4 **Sunday, March 9, 2025**
3-4-24	Section 3.1: Functions Section 3.2: The Graph of a Function	Section 3.1 Notes Section 3.2 Notes **Tuesday, March 4, 2025**	MyMathLab, Section 3.1 MyMathLab, Section 3.2 **Wednesday, March 19, 2025**
3-18-25	Section 3.3: Properties of Functions Section 3.4: Library of Functions	Section 3.3 Notes Section 3.4 Notes **Tuesday, March 18, 2025**	MyMathLab, Section 3.3 MyMathLab, Section 3.4 **Wednesday, March 26, 2025**
3-25-25	Section 3.5: Graphing Techniques; Transformations	Section 3.5 Notes **Tuesday, March 25, 2025**	MyMathLab, Section 3.5 **Monday, March 31, 2025**

4-1-25	Section 4.1: Linear Functions and Their Properties Section 4.2: Linear Models: Building Linear Functions from Data Section 4.3: Quadratic Functions and Their Properties Section 4.4: Building Quadratic Models from Verbal Descriptions and from Data	Sections 4.1-4.2 Notes Sections 4.3-4.4 Notes **Tuesday, April 1, 2025**	MyMathLab, Sections 4.1-4.2 MyMathLab, Sections 4.3-4.4 **Monday, April 7, 2025**
4-8-25	Section 5.1: Polynomial Functions Section 5.2: Graphing Polynomial Functions; Models	Sections 5.1-5.2 Notes **Tuesday, April 8, 2025**	MyMathLab, Sections 5.1-5.2 **Monday, April 14, 2025**
4-15-25	Section 5.5: Polynomial and Rational Inequalities Section 5.6: The Real Zeros of a Polynomial Function Section 5.7: Complex Zeros; Fundamental Theorem of Algebra	Section 5.5 Notes Sections 5.6-5.7 Notes **Tuesday, April 15, 2025**	MyMathLab, Section 5.5 MyMathLab, Sections 5.6-5.7 **Wednesday, April 21, 2025**
4-22-25	Section 6.1: Composite Functions Section 6.2: One-to-One Functions; Inverse Functions Section 6.3: Exponential Functions	Section 6.1 Notes Section 6.2 Notes Section 6.3 Notes **Tuesday, April 22, 2025**	MyMathLab, Section 6.1 MyMathLab, Section 6.2 MyMathLab, Section 6.3 **Monday, April 28, 2025**
4-29-24	Section 6.4: Logarithmic Functions Section 6.5: Properties of Logarithms	Section 6.4 Notes Section 6.5 Notes **Tuesday, April 29, 2025**	MyMathLab, Section 6.4 MyMathLab, Section 6.5 **Monday, May 5, 2025**
5-6-25	Section 6.6: Logarithmic and Exponential Equations Chapter 6 Applications Section 8.2: Systems of Linear Equations; Matrices	Section 6.6 Notes Chapter 6 Applications Section 8.2 Notes **Tuesday, May 6, 2025**	MyMathLab, Section 6.6 MyMathLab, Chapter 6 Applications MyMathLab, Section 8.2 **Sunday, May 11, 2025**

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

- Exams 60%
- Course Assignments 20%
- Core Assessment 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 accessed 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

1. The student will be expected to have access to the internet and a computer.
2. No food, drinks, or use of tobacco products in class.
3. Laptops, telephones, and any other electronic devices must be turned off during class.
4. A final grade of Incomplete will only be given if a student is passing the course and is missing only one major assignment. Such an arrangement must be made with the instructor. An incomplete assignment must be finished during the next long semester or a grade of “I” will become an “F.”