

College Algebra (MATH 1314-3D1)

CREDIT

3 Semester Credit Hours (3 hours lecture)

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.

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.



**LAMAR INSTITUTE
OF TECHNOLOGY**

INSTRUCTOR CONTACT INFORMATION

Instructor: Guy Harwell

Email: gharwell@lit.edu

Office Phone: (409) 247-4757

Office Location: TA 103

Office Hours: M: 8:00 – 9:00, 12:00-1:30
T: 8:00 -9:00, 1:00-2:30
W: 8:00 -9:00, 1:00-2:30
R: 8:00 – 9:00, 1:00 – 2:30

REQUIRED TEXTBOOK AND MATERIALS

1. College Algebra, by Sullivan, 12th edition with MyLabMath Access (18 week). You will access this material on the first day through Blackboard.
2. Calculator (check with your instructor for allowed types)

ATTENDANCE POLICY

Attendance is mandatory. If you must miss class, you are still responsible for any missed material covered. It is suggested that if you miss class that you get a copy of a classmate's notes and/or visit your instructor during office hours. Exams will also be given in class on the days listed in the syllabus unless changed via announcements in class and through Blackboard.

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 #		Section	Topic Description		
		Week of	08/24		
1		Introduction			
	1.1	Linear Equations			
	1.2	Quadratic Equations			
		Week of	08/31		
2	1.3	Complex numbers; Quadratic Equations in the Complex Number System			
	1.4	Radical Equations; Equations Quadratic in Form; Factorable Equations			
		Week of	09/07		
3	1.5	Solving Inequalities			
	1.6	Equations and Inequalities Involving Absolute Value			
	HOLIDAY	Labor Day Holiday		Monday, 09/01/2025	
		Week of	09/14		
4	2.1	Distance and Midpoint Formulas			
	EXAM	Exam 01			
		Sections on exam: 1.1, 1.2, 1.3, 1.4, 1.5, 1.6			
	CENSUS	Census Day		09/10/2025	
		Week of	09/21		
5	2.2	Graphs of Equations in Two Variables; Intercepts; Symmetry			
	2.3	Lines			
	3.1	Functions			
		Week of	09/28		
6	3.2	Graph of a Functions			
	3.3	Properties of Functions			
	3.4	Libraries of Functions; Piecewise-Defined Functions			
		Week of	10/05		
7	3.5	Graphing Techniques: Transformations			
	EXAM	Exam 02			
		Sections on exam: 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4			

Week #	Section	Topic Description	
		Week of	10/12
8	4.1	Properties of Linear Functions and Linear Models	
	4.3	Quadratic Functions and Their Properties	
		Week of	10/19
9	5.1	Polynomial Functions	
	5.3	Properties of Rational Functions	
	5.4	The Graph of a Rational Function	
		Week of	10/26
10	5.5	Real Zeros of Polynomial Functions	
	EXAM	Exam 03	
		Sections on exam: 3.5, 4.1, 4.3, 5.1, 5.3, 5.4	
		Week of	11/02
11	5.6	Real Zeros of Polynomial Functions	
	5.7	Complex Zeros of; Fundamental Theorem of Algebra	
	W Day	Last day to drop WITH academic penalty	10/31/2025
		Week of	11/09
12	6.1	Composite Functions	
	6.2	One-to-One Functions; Inverse Functions	
	6.3	Exponential Functions	
		Week of	11/16
13	6.4	Logarithmic Functions	
	EXAM	Exam 04	
		Sections on exam: 5.5, 5.6, 5.7, 6.1, 6.2, 6.3	
		Week of	11/23
14	6.5	Properties of Logarithmic Functions	
	6.6	Logarithmic and Exponential Equations	

Week #	Section	Topic Description	
	6.8	Exponential Growth and Decay Models: Growth and Decay Models	
	HOLIDAY	Thanksgiving Holidays	11/27 – 11/28
15		Week of	11/30
	8.2	Systems of Linear Equations; Matrices	
	REVIEW	Review for Final Exam	
16		Week of	12/07
	FINAL	Final Exam	
		Sections on exam: All sections covered in the course.	

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

Artificial Intelligence (AI)

Artificial Intelligence (AI) tools (e.g., ChatGPT, Wolfram Alpha, Photomath, Copilot, etc.) can be useful for exploring concepts and checking your understanding. However, in this course, **your own reasoning and problem-solving skills are essential**.

Permitted Uses

- Asking AI tools for help understanding a mathematical concept (e.g., asking for clarification of the Fundamental Theorem of Algebra or solving polynomials) while studying.
- Using AI to check your work **after** completing it independently while studying.
- Generating practice problems for self-study.

Prohibited Uses

- Using AI to complete (or on) homework, problem sets, projects, exams, quizzes, assignments, assessments, discussions, etc.
- Copying answers or solutions directly from AI tools.
- Using AI during quizzes, exams, or any individual assessment.
- Relying on AI without understanding the steps or logic behind the solution.

Disclosure Requirement

If you use an AI tool on any assignment, you must include a brief note explaining:

- Which tool you used.
- What you used it for.
- How it helped (or didn't help) you're learning.

Example:

"Used Wolfram Alpha to verify the final solution to Problem 3 after completing it on my own."

Remarks

- **No AI tools, apps, software, etc. is/ are to be used on any work that is scored, graded, assessed, etc.**
 - This includes all homework, exams, tests, projects, assessments, quizzes, discussions, etc.
- **Failure to follow these guidelines (as deemed by the instructor) may be considered academic dishonesty and will be handled according to college's policies including failure of the assignment, exam, homework, text, project, assessment, quiz, discussion, etc.**
- I reserve the right to use an AI detector on student's work.
- If the instructor has any concerns about AI being used, you can be asked to work out the problems in front of the instructor (this also includes online courses).
- If refuse to do so in a timely manner you can lose points for every question the instructor has concerns about.
- If you have any questions, please ask the instructor.

An Appeal to You

It is not a good idea to use AI to solve your problems. I know how long it takes to work on these problems (I have been working on them for years) and I can see how long it takes you to work on the problems. Blackboard and MyLab Math/ MyMathLab tells me when you logged in, how long you were logged in, when and which problems you were working on, how long it took you to work on the problems, etc. That is to say that I can see everything. I can tell if you are not being truthful, because numbers don't lie.

I will also look at your written work. It may not seem like it to you but once you get to know a student's work the way they work a problem (or don't) becomes like a signature in a way. I can tell if you are getting better or worse. I can tell if the work you turn in is way above or below where you are with your learning.

Besides all of this it is not a good idea to be dishonest with someone who is trying to help you (that's me) and it kind of hurts my feelings. I want you to do well because you can. You may not believe it, but I know it. With work, effort, and determination you can achieve and be successful at anything you set your mind to do. Yes, it is hard, but you can do it. Technology is only a tool; it does not replace your own mind and capabilities.

Attendance

Face-to-Face Courses

Information

- Attendance for face-to-face courses will be taken at every class meeting.
- The method can vary and can include:
 - Roll call
 - Sign in sheet
 - Please only sign in for yourself and no one else. If you do sign for someone else, it is considered academic dishonesty (see Student Handbook).
 - Instructor verification

Tardy

- You are considered tardy if you come in after attendance is taken.
- It is your responsibility to make sure that you are counted as present in the class.
 - If you are tardy, it is your responsibility to make sure that you talk with the instructor after class.
 - If you are tardy and you are not counted present, you will be counted absent for that class day.
 - This is to say that you only have that class session to let me know you are tardy, otherwise you are counted as absent.
- If you come to class and leave you will be counted as absent.
- If you come to class and leave for an extended period (as deemed by the instructor) and then come back to class, you will be counted as absent.
- Three tardies will count as an absence.

Remarks

- If you have any questions about attendance or issues you should contact me.
- **If you stop attending class (or are thinking of stopping) you should come and talk with me first so we can discuss any options that might be available for you.**

Assignments

Homework Assignments

- Homework assignments are assigned for every topic that we cover in the course.
- Homework is not optional and must be completed by their respective due dates.

- Failure to complete the homework assignment by its due date will result in a loss of points.
- We will be using MyLab Math/ MyMathLab for our homework for the course.

Homework Assignment Due Dates

- To find the due dates for the homework assignments please refer to MyLab Math/ MyMathLab and/or our online course site (Blackboard).

Other Assignments

- We can have other assignments during our course.
- Other assignments can include activities such as projects, worksheets, papers, etc.
- They will be announced via our online course website (Blackboard) and/ or by the instructor in class.
- Please see our online course website (Blackboard) and/ or the instructor.

Class Etiquette

Information

- Please be respectful of the other people and me in class.
- If you have any questions or concerns about the class, please come and talk with me outside of class (I am always concerned with how you are doing in the class).
- During our class time is not the appropriate time to bring up individual concerns (such as why you got a certain problem on the test wrong, etc.) and you should talk with me outside of class.
- If you ask a question about a problem in class, I may ask you to come and talk with me about the problem outside of class.
 - There is a lot we are doing in class, and some questions need a longer explanation, and this is better done one-on-one.
- **Please do not wear headphones in class.** I will ask you to remove them and you should remove them when I ask (this is about being respectful and polite).
- **Please do not be on your laptop, iPad, tablet, phone, etc. during class.** I will ask you to put it away and you should put it away when I ask (again being respectful and polite).
 - Our class time is for class, and we all need to be actively participating in the class (I am really trying to do my part) so we can be successful.
- **Please take notes on the topic we are discussing in class** (even if it is just copying down everything you see me doing).
 - It is very important that you take notes as humans are more likely to remember and comprehend ideas when we are taking notes.
- **Please do not sleep in class.** It is hard to actively participate while you are asleep.
- **Actively participate in the class.**
 - This means
 - trying to listen and critically think about what we are talking about in the class.
 - to come to the board if asked to work a problem on the board.
 - To participate in group activities (if we have them).
- Please do not take pictures, video/ audio recording, etc. of the lectures/ class without getting permission from the instructor.

- If you don't get permission first I ask that you delete the picture, video/ audio recording.
- This is all to say that you should be polite and ask first.

Remarks

- Please remember that mathematics can be a difficult subject and I am here to help you, but we need to be respectful of everyone (including me) and address concerns outside of class.
- If I ask you to come and talk with me after (or outside of) class, please be respectful and come and talk with me after (or outside of) class

Communication

Information

- The best way to reach me is by email (gharwell@lit.edu) or my office hours (posted outside my office).
 - For email, please allow 24 – 48 hours
 - Emails at or after 5:00 pm on Friday might not be answered before the following Monday
- Please check our online class website (Blackboard) daily for announcements
- Any announcements about the class will be on our online class website (Blackboard)
 - This includes announcements about whether I am late or if I am going to be absent.

Communication Etiquette

Regarding email communication with your instructor:

Make sure that all communications to your instructors represent you in a way you want to be seen by your instructors. Remember, email is formal written communication and should be treated as such.

- Use a clear subject line. The subject "Rhetorical Analysis Essay" would work a bit better than "heeeeelp!" (and much better than the unforgivable blank subject line).
- Use a salutation and signature. Instead of jumping right into your message or saying "hey," begin with a greeting like "Hello" or "Good afternoon," and then address your professor by appropriate title and last name, such as "Prof. Xavier" or "Dr. Octavius."
- Use standard punctuation, capitalization, spelling and grammar. Instead of writing "idk what 2 rite about in my paper can you help??" try something more like, "I am writing to ask about the topics you suggested in class yesterday."
- Do your part in solving what you need to solve. Instead of asking, "What's our homework for tonight?" you might write, "I looked through the syllabus and course website for this weekend's assigned homework, but unfortunately I am unable to locate it."
- Be aware of concerns about entitlement. If you appear to demand help, shrug off absences, or assume late work will be accepted without penalty because you have a good reason, your professors may see you as irresponsible or presumptuous.

Professional communication will be essential to your future success, so when contacting your instructor, please adhere to the guidelines above. Emails that do not meet the guidelines below may be politely returned for a second attempt

Electronic Devices

Information

Face-to-Face Courses

- Electronic devices include laptops, iPads, all phones, tablets, headphones, etc.
- **Electronic devices are not allowed during class time (including during exams/ quizzes).**
 - If you are using a tablet to take notes you need to come and talk with me first and get my approval.
 - I also reserve the right to ask you to put it away at any point in the class, even if you have prior approval.
 - Laptops/ phones are not appropriate for taking notes with mathematical notation in our class and so are not allowed at all (we will be writing our notes by hand).

Calculators

- No calculators on phones, laptops, tablets, etc. are to be used in the class at all.
- The following calculators are allowed during class time.
 - TI-83 series, TI-84 series, scientific calculators, and four function (basic) calculators.
- All calculators should be approved by the instructor.
- I will let you know if a calculator is allowed on an exam.

Exams/ Final Exam

Face-to-Face Courses

Information

- We will be having several major exams and a cumulative final exam (this means that the final exam is over everything in the course).
- You can find our exam schedule on the course calendar.
- Please plan to be in class and ready to take the exam.
- We will be having paper exams/ quizzes for our face-to-face course(s).

Expectations

- You will be expected to come to class on time and to take the exam/quiz in person in our class, unless other arrangements have been made with the instructor ahead of time.
- You will be expected to write fully justified solutions to the problems using correct mathematical notation and terminology as deemed by the instructor.

Prohibited Items

- No electronic devices are allowed including laptops, phones, headphones, electronic watches, iPads, tablets, etc.
- No notes, books, textbooks, etc. are allowed.

Remarks

- Grades, scores, correctness, quality, etc. are strictly the decision of the instructor
 - If you wrote the solution correctly, how correctly, if you got a correct answer, if you did not get a correct answer, if you are using the correct methods to solve the problem,

how many points (if any) are awarded for a solution or part of a solution, etc. are all strictly the decision of the instructor of the course.

- Please do not take pictures, video, recordings, etc. of the exam.
- If you have any questions on this, please feel free to ask me.

Extra Credit Opportunities

Information

- We will be having extra credit opportunities during the course.
- The extra credit opportunities will be announced during the normal course of the semester and will be on our course website (Blackboard).
- To receive points for the extra credit, you must follow all instructions completely and completely complete the opportunity.
- The instructor will determine how much if any points are awarded for the extra credit opportunity.

Remarks

- Please remember that extra credit is a reward for extra work that contributes to your learning.
- It is not to replace an exam, quiz, assessment and it is not points given to you to bring up a poor score or poor performance.
- Extra credit opportunities are above and beyond your normal course work. That is to say that you should focus on your normal coursework and then extra credit.

Late Work

Information

- Late work is not accepted unless you have approval from the instructor.
- My expectation is that you talk with me before the due date if you know that you are not going to be able to complete an assignment, exam, quiz, etc. by the due date.
- Please remember that if you do not turn in your work before the due date, you can receive a zero for the assignment.
- It is the instructor's decision whether late work is accepted or not.
- If you have questions about this, please feel free to contact me.
- If the work is accepted after the due date, it can take several weeks to get back.
 - This means that you may not get the assignment grade or feedback until several weeks after you turn in the work late.

Late Assignments

- Homework assignments will not be accepted past the due date unless you have the approval of the instructor.
 - The late assignments will have a per day penalty assessed or an overall penalty depending on the assignment.
- You can find the due dates for homework on MyLab Math/ MyMathLab.
- Other assignment due dates can be found on our course calendar and/or class website (Blackboard).

Project/ Core Assessment

Information

- A project or core assessment is a part of the course to assess the learning and comprehension of the topics in the course.
- It generally consists of working on more involved questions that require many of the skills and knowledge that the course covers.
- Generally, it takes the form of a paper (report, detailed worksheets, etc.) that the student must write to show competence of the course material.
 - An example of this would be that the student is given a project packet that they must complete by writing a report on a topic and answering questions that need an understanding of the course material.
- You can find more information on the projects/ core assessment for the course on our course website (Blackboard).
- You can find the due dates on our course calendar and/or our course website (Blackboard).

Make-up Assignments, Exams, Quizzes, Etc.

Information

- Make-ups assignments, exams, quizzes, etc. are not given without the approval of the instructor.
- You will need to provide documented evidence for the reason you need to take the make-up assignment, exam, quiz, etc.
 - This can take the form of a doctor's note, jury summons, etc.
- Make-up is not given without acceptable reason and evidence.
- It is the instructor's decision whether to accept the reason and evidence provided and to give the make-up or not.
- If you need a make-up for any reason, please let me know as soon as possible.

Quizzes

Information

- Quizzes are given to assess students learning at the time of the quiz.
- They can be in-class or online.
- They can be announced or not.
- For online quizzes you can find them on our course calendar and/or class website (Blackboard).
- What the quiz will be over will be announced at the time of the quiz and can include any material that is prerequisite to the course and/or covered prior to the quiz.

Retakes

- **There are no retakes of any exams and quizzes.**
- If you have any questions, please feel free to contact me.