MATH 2312 Pre-Calculus

LAMAR INSTITUTE OF TECHNOLOGY

CREDIT
3 Semester Credit Hours (4 hours lecture)

MODE OF INSTRUCTION
Online

PREREQUISITE/CO-REQUISITE:
Passed MATH 1314 College Algebra with a "C" or better.

COURSE DESCRIPTION
This course is an in-depth combined study of algebra, trigonometry, and other topics necessary for Calculus readiness.

COURSE OBJECTIVES
Upon successful completion of this course, students will:

1. Demonstrate and apply knowledge of the properties of functions.
2. Recognize and apply algebraic and transcendental functions and solve related equations.
3. Apply graphing techniques to algebraic and transcendental functions.
4. Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians.
5. Prove trigonometric identities.
6. Solve right and oblique triangles.

INSTRUCTOR CONTACT INFORMATION

Instructor: Widad Abedelwahab

Email: whabedelwahab@lit.edu

Office Phone: 409-241-7873

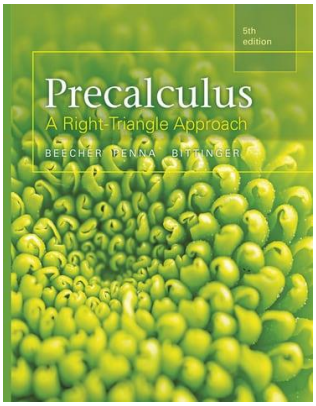
Office Location: Building TA5 and Room 106

Office Hours: Virtual office hours by appointment. During the semester I will be creating virtual meetings (optional). I will send a message through blackboard. Monday – Thursday on campus 9:00 am – 11;30 am

Approved: Initials/date

1. We will be communicating with announcements and messages through Blackboard.
2. Do NOT use your personal e-mail to contact me. I will not respond to any personal e-mail.
3. I will check my messages Monday through Friday (not on weekends).
4. I will try to respond to you within 24 hours but please do not leave things for the last minute! 5. You must log in to black to check for new messages, announcements, and work on the assignments.
6. I will be asking you to respond to messages with "I understand"

REQUIRED TEXTBOOK AND MATERIALS



Single-term access

ISBN-13: 9780135676264 ($90 plus tax)

Multi-term access

ISBN-13: 9780135299449 ($ 150 plus tax)

(Comes inclusive with ELE bundle for $42)

2. Calculator of your choice. (Ask instructor for available resources)

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

Face to face classes: you are expected to attend every class. Failure to attend may result in being dropped or loss of credit (failing the course), with or without warning.

Online classes; do not attend class but are expected to login to blackboard at least twice a week and complete assignments prior to due date. Failure to complete assignments prior to due date may result in loss of credit. Late work may not be accepted.

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. 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 or without notice)

Week of	Assignment	Due Date
Week 1	Syllabus First week assignments	Check the assignments calendar on blackboard 1/27/2025
Week 2	1.2 Functions and Graphs 1.5 Linear Equations, Functions, Zeros and Applications 2.1 Increasing, Decreasing and Piecewise Functions	2/3/2025
Week 3	2.2 The Algebra of Functions 2.3 The Composition of Functions	2/10/2025
Week 4	2.5 Transformations **Chapter 1 and 2 Test (2/18/2025)** 3.2 Quadratic Equations, Functions, Zeros and Models 3.3 Analyzing Graphs of Quadratic Equations	2/17/2025
Week 5	3.2 Quadratic Equations, Functions, Zeros and Models 3.3 Analyzing Graphs of Quadratic Equations	2/24/2025
Week 6	3.4 Solving Rational Equations and Radical Equations 4.1 Polynomial Functions and Models 4.2 Graphing Polynomial Functions	3/3/2025
Week 7	4.3 Polynomial Division; The remainder and Factor Theorem 4.5 Rational Functions **Chapter 3 and 4 Test (3/11/2025)**	3/10/2025
Week 8	5.2 Exponential Functions and Graphs 5.3 Logarithmic Functions and Graphs	3/17/2025
	Spring Break Campus Closed	
Week 9	**5.4 Properties of Logarithmic Functions** **5.5** Solving Exponential and Logarithmic Equations **Chapter 5 Test (3/25/2025)**	3/24/2025
Week 10	6.1 Trig functions of Acute Angles 6.3 Trig Functions of any Angle	3/31/2025
Week 11	6.5 Circular Functions: Graphs and Properties 6.6 Graphs of Transformed Sine and Cosine Functions 7.1 Identities: Pythagorean and Sum/Difference	4/7/2025
Week 12	7.2 Identities: Cofunction, Double Angle and Half Angle 7.3 Proving Trig Identities	4/14/2025
Week 13	**7.5 Solving Trigonometric Equations**	4/21/2025

	Chapter 6 and 7 Test (4/22/2025)	
Week 14	8.1 The Law of Sines 8.2 The Law of Cosines **Chapter 8 Test (4/29/2025)**	4/28/2025
	The final submission for all the assignments.	Thursday May.8th at 10:00 pm

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

Tests	60%
Course Assignments	40%

GRADE SCALE

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

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.

AI Statement

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More Information on blackboard.