Pre-Calculus (MATH 2412)

INSTRUCTOR CONTACT INFORMATION

Instructor:	James Jean
Email:	jjean@lit.edu (Preferred)
Office Phone:	(409) 880-8321
Office Location:	T5 Rm. 103
Office Hours:	MW: 8:00 am – 9:00 am; 11:00 am – 12:30 pm TR: 8:00 am – 9:30am F: 8:30 am – 9:00 am; 11:00 am – 12:30 pm

CREDIT

3 Semester Credit Hours (3 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 completion of this course, the student will be able to:

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 value 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.

Approved: Initials/date

REQUIRED TEXTBOOK AND MATERIALS

1. MyMathLab Access Code
    a. May be obtained through Eagle Learning Essentials (Link is on Blackboard)
    b. May be purchased directly from Pearson's website should you chose to opt out of Eagle Learning Essentials.
2. Calculator of your choice (TI 84 preferred). Calculators with a Computer Algebra System (such as the TI-89) are prohibited. Ask your instructor if you are unsure. (No phones or other devices are to be used as a calculator)

ATTENDANCE POLICY

Online classes do not attend class but are expected to login to Blackboard/MyMathLab 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. If a week goes by with no activity, inactivity flags can be submitted via Starfish.

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.

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).

COURSE CALENDAR (Dates and assignments subject to change with or without notice)

Week	Assignment	Due Dates
1/20	Syllabus 1.1 Introduction to Graphing 1.2 Functions and Graphs	
1/26	1.5 Linear Equations, Functions, Zeros and Applications 2.1 Increasing, Decreasing, and Piecewise Functions	
2/2	2.2 The Algebra of Functions 2.3 The Composition of Functions	
2/9	2.5 Transformations 3.2 Quadratic Equations, Functions, Zeros and Models 3.3 Analyzing Graphs of Quadratic Equations	
2/16	3.4 Solving Rational and Radical Equations 4.1 Polynomial Functions and Models 4.2 Graphing Polynomial Functions	
2/23	4.3 Polynomial Division; The Remainder & Factor Theorem 4.4 Theorems about Zeros of Polynomials **Chapter 1, 2, and 3 Test**	Homework for Test 1 Due: 02/24 **Test 1 Due Feb. 25th**
3/2	4.5 Rational Functions 5.1 Inverse Functions 5.2 Exponential Functions and Graphs	
3/9	**Spring Break – Campus Closed**	
3/16	5.3 Logarithmic Functions and Graphs 5.4 Properties of Logarithmic Functions	
3/22	5.5 Solving Exponential and Logarithmic Equations **Chapter 4 and 5 Test**	Homework for Test 2 Due: 03/24 **Test 2 Due Mar. 25th**
3/30	6.1 Trigonometric Functions of Acute Angles 6.2 Applications of Right Triangles 6.3 Trigonometric Functions of Any Angle	
4/6	6.4 Convert Degrees/Radians 6.5 Circular Functions: Graphs and Properties 6.6 Graphs of Transformed Sine and Cosine Functions	
4/13	7.1 Identities: Pythagorean and Sum/Difference 7.2 Identities: Cofunction, Double Angle and Half Angle 7.3 Proving Trigonometric Identities	
4/20	7.4 Inverses of Trigonometric Functions 7.5 Solving Trigonometric Equations **Core Assessment**	
4/27	**Chapter 6 and 7 Test (Due Wednesday, April 29th)** 8.1 The Law of Sines 8.2 The Law of Cosines	Homework for Test 3 Due: 04/28 **Test 2 Due Apr. 29th**
5/4	**Final Exam**	Remaining Homework Due: 05/8 **Final Due May 8th**

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

- Tests (including the final exam) 60%
- Core Assignment 20%
- Course Assignments 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.

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

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.

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.

Instructor Expectations from Students:

- Weekly email communication regarding assignment and upcoming test due dates
- Response to email/remind text within 24 hours (same day if received before 5pm M-Th or before noon Friday)
- Flexible office hour/ virtual help when needed.
- Weekly grade updates

Professor Expectations of Students:

- Seek help from you instructor early and often, do not wait until the last minute!
- Plan ahead; if you will miss an exam, make prior arrangements to take it early or schedule a make-up date at instructors' convenience.
- When sending emails identify yourself with class and section
- Participate in class lecture/discussions.

- On exams, all of your work should be completely your own. For example, no use of artificial intelligence, web-browsing devices, other students, etc. is allowed during exams or on the Core Assessment. For exams, you are allowed scratch paper, a pen or pencil, and a calculator (remember that phones or other devices cannot be used as a calculator). Any other materials are at the discretion of the instructor.