Pre-Calculus (MATH 2312-921) Online

INSTRUCTOR CONTACT INFORMATION

Instructor: Widad Abedelwahab

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Office Phone: (409)241-7873

Office Location: Building T5 Room 106

Office Hours: Monday: 8:00 – 11:00
Tuesday: 8:00 – 9:30/ 12:30 – 2:30
Wednesday: 8:00 – 11:00
Thursday: 8:00 – 9:30/ 12:30 – 1:30
Friday: 8:00 – 11:00

(Office hours subject to change)

CREDIT

3 Semester Credit Hours (3 hours lecture)

MODE OF INSTRUCTION

Fully Online

PREREQUISITE/CO-REQUISITE:

- Passed MATH 1314 College Algebra with a "D" or better.
- Complete the Online Orientation and answer yes to 7+ questions on the Online Learner Self-Assessment: http://www.lit.edu/depts/DistanceEd/OnlineOrientation/OOStep2.aspx
  http://www.lit.edu/depts/DistanceEd/OnlineOrientation/OOStep2.aspx

COURSE DESCRIPTION

This course is an in-depth combined study of algebra, trigonometry, and other topics necessary for Calculus readiness. This includes a review of algebraic and transcendental functions including trigonometric functions. Topics also include analytic geometry, vector algebra, polar and parametric equations, sequences and series, mathematical induction, and the binomial theorem.

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 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.

Approved: Initials/date

REQUIRED TEXTBOOK AND MATERIALS

1. MyMathLab Standalone Access Code

   a. May be purchased online through blackboard

   ISBN—9780135263815----- 24 months
   ISBN ---9780135676288------18 weeks

2. A basic scientific calculator: *please check with your individual instructor as to the specific type of calculator required.*

ATTENDANCE POLICY

You should be able to log in to blackboard at least 4 hours a week to check for announcements and go to MyMathLab to work on the assignments.

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 working on the assignments and fail to drop the course, you will earn an "F" in the course.

STUDENT EXPECTED TIME REQUIREMENT

For a 3-credit-hour class, students should prepare to allocate approximately six to nine hours per week.

Course Requirements

1. The student must purchase all of the required course materials.
2. The student will be expected to have access to the Internet and a computer with webcam and microphone.
3. Blackboard logon and access to course a minimum of four times per week.
4. Additional course requirements on blackboard.
5. Students should read all the information under the home page and class information tab on blackboard before starting on the first week assignments.

COURSE Outline

Week	TOPIC	ASSIGNMENTS
Week 1	The first week assignments listed on the assignments calendar under the home page and class information. Step # 1: Getting started activities Highly recommended to review chapter R Review assignment	The due dates on blackboard under the assignments calendar.
Week 2	**Chapter 1: Graphs, Functions, Models** Section: 1.1 Optional Section 1.2: Functions and Graphs Section 1.5: Linear Equations, Functions, Zeros, and Applications **Chapter 2: More on Functions** Section 2.1: Increasing, Decreasing and Piecewise Functions	
Week 3	Section 2.2: The Algebra of Functions Section 2.3: The Composite of Functions	
Week 4	Section 2.4: Optional Section 2.5: Transformations **Test 1: Chapter 1, 2**	
Week 5	**Chapter 3: Quadratic Functions** Section 3.1: Optional Section 3.2: Quadratic Equations, Functions, Zeros, and Models Section 3.3: Analyzing Graphs of Quadratic Functions	
Week 6	Section 3.4: Symmetry Section 3.5: Optional **Chapter 4: Polynomial Functions and Rational Functions** Section 4.1: Polynomial Functions and Models Section 4.2: Graphing Polynomial Functions	
Week 7	Section 4.3: Polynomial Division Section 4.5: Rational Functions Test 2: Chapter 3, 4	
Week 8	**Chapter 5: Exponential Functions and Logarithmic Functions** Section 5.1: Optional	

	Section 5.2: Exponential Functions and Graphs Section 5.3: Logarithmic Functions and Graphs	
Week 9	Section 5.4: Properties of Logarithmic Functions Section 5.5: Solving Exponential Equations and Logarithmic Equations **Test 3: Chapter 5**	
Week 10	**Chapter 6: The Trigonometric Functions** Section 6.1: The Trigonometric Functions of Acute Angels Section 6.2: Optional Section 6.3: The Trigonometric Functions of Any Angle	
Week 11	Section 6.4: Optional Section 6.5: Circular Functions. Section 6.6: Graphs of Transformed Sine and Cosine Functions **Chapter 7: Trigonometric Identities and Inverse Functions** Section 7.1: Pythagorean identities.	
Week 12	Section 7.2: Double-angle and Half-angle identities. Section 7.3: Proving Trigonometric Identities.	
Week 13	Section 7.5: Solving Trigonometric Equations **Test 4: Chapter 6, 7**	
Week 14	**Chapter 8: Applications of Trigonometry** Section 8.1: The Law of Sines Solving oblique triangles. Solving triangles using AAS and SSA. The Area of the Triangle	
Week 15	Section 8.2: The Law of Cosines. Solving triangles using SAS, and SSS. Test 5: Chapter 8	

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

Online Exams 60%

Course Assignments (Including Core Assessment) 40%

(Chapter tests will be taken on MyMathLab using Respondus Lockdown Browser)

More information on blackboard under testing information tab and MyMathLab information tabs.

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.

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

Read all the information under the home page on blackboard.
Follow the instructions.
If you have any questions or you need help you can call me on my office phone number listed on the syllabus.
We communicate using the office phone number, announcements, emails (Please use LIT email. I do not respond to personal emails)