Precalculus

MATH 2312.003 – FALL 2024

Instructor:	Mrs. Traci Mayo
Email:	tmayo@uttyler.edu

The best way to contact me is on Canvas.

I will respond quicker on Canvas than email.

Classroom:	RBN 3035
Class Times:	MW 5:40 – 7:05
Office:	RBN 3035 (same as class)
Office Hours:	MW 5:00 – 5:40

Course Description

This course is a study of college algebra, trigonometry, and analytical geometry to prepare students for calculus. The topics we will cover include algebraic functions and their graphs, exponential and logarithmic functions, trigonometric functions and identities, and two- and three- dimensional analytical geometry. Credit will not be given for both MATH2312 and MATH1316. An appropriate score on the TSI, SAT, or ACT is required.

Learning Outcomes

Upon completion of this course, students should be able to do the following:

- Develop analytical reasoning to solve algebraic problems such as finding the solutions to polynomial, rational, logarithmic, and trigonometric equations, as well as finding inverse functions.
- Represent trigonometric functions by drawing relevant pictures on the unit circle, by writing the correct trigonometric definitions, and by verbal descriptions.
- Demonstrate a critical understanding of functions by graphing and analyzing functions, evaluating functions at specific real number and at variable values, computing new functions from old functions through algebraic operations, and applying known theory such as the Factor Theorem to factor polynomials and find their zeros.
- Calculate the values of trigonometric functions based on right-triangular and circular definitions.
- Solve triangles given appropriate information about sides and angles.
- Prove the validity of trigonometric identities.

Required Homework Subscription and Calculator

- *Precalculus A Right-Triangle Approach My Lab* access code (ISBN 9780135676264)
    - Purchasing an actual textbook is NOT required because an eBook of the textbook will be included with the online purchase.
    - We will be using this resource to complete all homework assignments. You will have two weeks of free access at the beginning of the semester. In order to continue on after that, you must purchase the subscription.
    - If you are using financial aid or scholarship money to purchase this subscription, you must go to the bookstore. If you are using a credit card to purchase this subscription, you can purchase it through Canvas.
        - Go to the My Lab and Mastering link on the sidebar of this course in Canvas to enter your credit card number or your code you receive from the bookstore.
- A TI-30XIIS is the **REQUIRED**, non-graphing, scientific calculator for this course. Right now, you can purchase one for as little as $10. It doesn't matter what color calculator you purchase.

Website
We will use Canvas in this course. Go to www.uttyler.edu/canvas to log into Canvas using your regular Patriots account. If you have enrolled in the course, you should have access to our class on Canvas. You will find important documents, grades, and announcements on Canvas. In general, I will notify you on Canvas if there are any disruptions or changes to our class.

Make Up Policy
Make ups for documented absences that are required as a part of a UT Tyler obligation (i.e., athletic events, a debate contest, etc.) or for a religious observation will be granted. For all make ups of this type, prior notification and documentation will be required. Other make ups are granted only in extreme cases such as hospitalization and are at the sole discretion of the instructor. Makeups will not be granted after the fact under any circumstances. Pay close attention to the quiz dates and test dates.

Course Evaluation
At the end of the semester, you will find your final grade on my.uttyler.edu. It will also be posted on Canvas.
- 90% is a guaranteed A.
- 80% is a guaranteed B.
- 70% is a guaranteed C.
- 60% is a guaranteed D.
- All grades below 60% will be an F.

Student Resources
See the Course Information module for a list of resources offered for you at UT-Tyler.

University Policies
See the Course Information module for the policies at UT-Tyler.

Use of Artificial Intelligence
AI is not permitted in this course at all. See the Course Information module for more information.

The Plan
HOMEWORK (15%): Homework will be assigned for each section of each chapter through an online platform called My Lab. You will access the assignments through Canvas. In general, a group of assignments will become available every other Monday. That group will be due at 5:30PM on test day. You will be provided with instant feedback on your answers, as well as multiple attempts to complete most problems. Use this to your advantage. **You will not be able to submit homework assignments after the due date.** The system is not flawless so the grading may be adjusted for any glitches that arise. Please let me know ASAP if you suspect a problem.

TESTS (65%, drop 1): A test will be given for each chapter we cover. Therefore, there will be 7 chapter tests this semester. They will be given in class on paper. These tests will assess your knowledge of the material taught in class and practiced on the homework. An optional review will be provided online.

FINAL EXAM (15%): This will be in person and on paper during the week of December 9th. The final exam will be comprehensive. I will count your final exam grade as the final exam **and** as an 8th test grade.

ATTENDANCE (5%): Students learn math better in person than they do online. This is a face-to-face class. You signed up to take this class knowing it will meet every Monday and Wednesday from 5:40 – 7:05 PM. Therefore, your attendance is required. Attendance will be taken during each class. You are allowed to have 3 absences this semester and still receive all the points. Your attendance is mandatory on test days.

PRECALCULUS SEMESTER CALENDAR – FALL 2024

Homework is due at 5:40PM on the day of the chapter test.
Pay attention to the test dates on the calendar below.

Date	Plans for Class	Date	Plans for Class
Mon, 8/26	Class Intro 1.1 Graphs 1.2 Functions	Mon, 10/21	5.1 – Inverse Functions 5.2 Exponential Functions 5.3 Logarithmic Functions
Wed, 8/28	1.3 Linear Functions and Slope 1.4 Equations of Lines 1.5 – 1.6 Linear Equations and Inequalities	Wed, 10/23	5.4 Properties of Logarithmic Functions 5.5 Solving Exponential and Logarithmic Equations
Mon, 9/2	HOLIDAY	Mon, 10/28	*Chapter 5 Test Review (We will wrap up the notes, if necessary. Then, we will go over questions to homework assignments in preparation for test.)*
Wed, 9/4	2.1 Increasing, Decreasing, Piecewise Function 2.2 The Algebra of Functions 2.3 The Composition of Functions	Wed, 10/30 (H/W due)	**Chapter 5 Test**
Mon, 9/9	2.4 Symmetry 2.5 Transformations	Mon, 11/4	6.1 Trigonometric Functions of Acute Angles 6.2 Applications of Right Triangle Trigonometry
Wed, 9/11	*Chapters 1- 2 Test Review (We will wrap up the notes, if necessary. Then, we will go over questions to homework assignments in preparation for test.)*	Wed, 11/6	6.3 Trigonometric Functions of Any Angle
Mon, 9/16 (H/W due)	**Chapters 1 and 2 Test**	Mon, 11/11	*Chapter 6 Test Review (We will wrap up the notes, if necessary. Then, we will go over questions to homework assignments in preparation for test.)*
Wed, 9/18	3.1 Imaginary Numbers 3.2 Quadratic Equations 3.3 Quadratic Functions	Wed, 11/13 (H/W due)	**Chapter 6 Test**
Mon, 9/23	3.4 Solving Rational and Radical Equations 3.5 Solving Absolute Value Equations	Mon, 11/18	7.1 Identities: Pythagorean and Sum & Difference 7.2 Identities: Cofunction and Double Angle
Wed, 9/25	*Chapter 3 Test Review (We will wrap up the notes, if necessary. Then, we will go over questions to homework assignments in preparation for test.)*	Wed, 11/20	7.4 Inverses of Trigonometric Functions 7.5 Solving Trigonometric Equations
Mon, 9/30 (H/W due)	**Chapter 3 Test**	Mon, 12/2	*Chapter 7 Test Review (We will wrap up the notes, if necessary. Then, we will go over questions to homework assignments in preparation for test.)*
Wed, 10/2	***No class. Watch the video online.*** 4.1 Polynomial Functions 4.2 Graphing Polynomial Functions	Wed, 12/4 (H/W due)	**Chapter 7 Test**
Mon, 10/7	4.3 Polynomial Division 4.4 Theorems about Zeros of Poly. Functions	Mon, 12/9	
Wed, 10/9	4.5 Rational Functions	Wed, 12/11	**Cumulative Final Exam 7:15PM – 9:15PM**
Mon, 10/14	*Chapter 4 Test Review (We will wrap up the notes, if necessary. Then, we will go over questions to homework assignments in preparation for test.)*	<td colspan="2" rowspan="2"> <u>November 4th</u> Last day to withdraw from a 15-week course. <u>Final Grades</u> Entered by noon on December 17th (at the latest). </td>
Wed, 10/16 (H/W due)	**Chapter 4 Test**