PreCalculus

MATH 2312.002 – SPRING 2024

Instructor:	Mrs. Traci Mayo
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The best way to contact me is through sending messages on Canvas. I will respond quicker on Canvas than on email.

Classroom:	RBN 4027
Class Times:	MW 5:40 – 7:05
Office:	RBN 4027
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 Technology

- *Precalculus A Right-Triangle Approach My Lab* access code (ISBN 9780135676264)
  - o Purchasing an actual textbook is NOT required because an eBook of the textbook will be included so
  - o 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.
  - o If you are using financial aid or scholarship money to purchase this subscription, you need to 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, it costs $15 at Walmart, Target, or Amazon. It doesn't matter what color calculator you purchase. The black on is the cheapest.

<u>Website</u> – 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.

<u>Make Up Policy</u> – 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 <u>under any circumstances</u>. Pay close attention to the quiz dates and test dates.

<u>Course Evaluation</u> – 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.

<u>The Plan</u>

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 homework assignments will become available on Monday of each week. It will be due at 5PM on the following Monday. 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 may arise. Please let me know as soon as possible if you suspect a problem.

QUIZZES (25%, drop 2): There will be 12 quizzes this semester. They will be given in class on paper. The purpose of quizzes is to make sure that you are staying on track and generally understanding the material from each section.

TESTS (40%, drop 1): There will be three tests. They will be given in class on paper. These assessments will test your knowledge of the material taught in class and practiced on the homework and the quizzes.

FINAL EXAM (15%): This will be in person and on paper during the week of May 1st. The final exam will be comprehensive. I will count your final exam grade as the final exam **and** as a 4th test grade. Stay tuned for more information.

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. I understand that things come up. Therefore, you are allowed to have 3 absences this semester and still receive all the points. Your attendance is mandatory on quiz/test days.

PRECALCULUS SEMESTER CALENDAR – SPRING 2024

Homework is due every Monday at 5:40PM, except 1/22, 3/11, 3/18, and 4/22.
The last group of homework assignments will be due on Wednesday, 4/24 instead of Monday, 4/22.
There will be a short quiz given at the end of class on the days that homework is due.
There will also be a quiz on Wednesday, 3/27. Homework will not be due that day.

Date	Plans for Class	Date	Plans for Class
Wed, 1/17	Class Intro 1.1 Graphs 1.2 Functions	Mon, 3/18	6.1 Trigonometric Functions of Acute Angles 6.2 Applications of Right Triangle Trigonometry
Mon, 1/22	1.3 Linear Functions and Slope 1.4 Equations of Lines 1.5 – 1.6 Linear Equations and Inequalities	Wed, 3/20	6.3 Trigonometric Functions of Any Angle 6.4 Radians
Wed, 1/24	2.1 Increasing, Decreasing, Piecewise Function 2.2 The Algebra of Functions	Mon, 3/25 H/W due	**Quiz 7 (Sections 6.1 – 6.4)** 6.5 Circular Functions, Graphs and Properties
Mon, 1/29 H/W due	**Quiz 1 (Sections 1.1 – 2.2)** 2.3 The Composition of Functions 5.1 Inverse Functions	Wed, 3/27	**Quiz 8 (The Unit Circle)** 6.6 Graphs of Transformed Sine and Cosine Functions 7.4 Inverses of Trigonometric Functions
Wed, 1/31	2.4 Symmetry 2.5 Transformations	Mon, 4/1 H/W due	**Quiz 9 (Sections 6.5, 6.6, 7.4)** 7.1 Identities: Pythagorean and Sum and Difference
Mon, 2/5 H/W due	**Quiz 2 (Sections 2.3– 2.5, 5.1)** 3.1 Imaginary Numbers 3.2 Quadratic Equations	Wed, 4/3	7.2 Identities: Cofunction and Double Angle 7.5 Solving Trigonometric Equations
Wed, 2/7	**Test 1 (Sections 1.1 – 2.5, 5.1)**	Mon, 4/8 H/W due	**Quiz 10 (Sections 7.1, 7.2, 7.5)** 8.1 – 8.2 Law of Sines and Law of Cosines
Mon, 2/12 H/W due	**Quiz 3 (Sections 3.1 – 3.2)** 3.3 Quadratic Functions	Wed, 4/10	**Test 3 (Sections 6.1 – 7.5)**
Wed, 2/14	3.4 Solving Rational and Radical Equations 3.5 Solving Absolute Value Equations	Mon, 4/15 H/W due	**Quiz 11 (Sections 8.1 – 8.2)** 5.2 Exponential Functions
Mon, 2/19 H/W due	**Quiz 4 (Sections 3.3 – 3.5)** 4.1 Polynomial Functions	Wed, 4/17	5.3 Logarithmic Functions 5.4 Properties of Logarithmic Functions
Wed, 2/21	4.2 Graphing Polynomial Functions 4.3 Polynomial Division	Mon, 4/22	5.5 Solving Exponential and Logarithmic Equations
Mon, 2/26 H/W due	**Quiz 5 (Sections 4.1 – 4.3)** 4.4 Theorems about Zeros of Polynomial Functions	Wed, 4/24 H/W due	**Quiz 12 (Sections 5.2 – 5.5)**
Wed, 2/28	4.5 Rational Functions	Mon, 4/29	Study Session for Final
Mon, 3/4 H/W due	**Quiz 6 (Sections 4.4 – 4.5)** (no homework over Spring Break 😊)	Wed, 5/1	**Final Exam 7:15PM – 9:15PM**
Wed, 3/6	**Test 2 (Sections 3.1 – 4.5)**		March 25th: Last day to withdraw from a 15-week course. Final Grades: I will enter these by noon on 5/7 at the latest.

Recorded Lessons

- At times, you may think that I am covering the material too fast. Please remember that everything taught in this class is recorded and posted on Canvas. You are welcome to watch anything I teach over and over again until you are satisfied.
- If there is ever a time that we do not get through all of the notes during our class time, you will need to watch the rest on Canvas after class. I will finish recording the material once everyone is dismissed. You are welcome to stay and listen in person if you want. I hope this doesn't happen very often.

Plagiarism and Academic Dishonesty

- Any work you submit must represent your own effort. If I determine that this is not the case, I will prosecute plagiarism and academic dishonesty to the fullest extent possible. All assessments are closed book with no notes allowed.
- If you are caught cheating on a quiz or a test, you will receive a zero for that assignment.

Children in the Classroom

- If, on rare occasions, your childcare fails you, you may bring nondisruptive, noncontagious children to class with you. Please notify the professor in advance if you need to take advantage of this.

Changes to the Syllabus

- I reserve the right to make changes to the syllabus during the semester. Any changes to the course policies will be announced in class and an updated version of the syllabus will be posted on Canvas.

COVID

It is important to take the necessary precautions to ensure a healthy and successful year. UT Tyler continues to urge you to protect yourselves against the flu, COVID and any new threats that may be developing. Be diligent about preventive measures such as washing hands, covering sneezes/coughs, social distancing and vaccinations, which have proven to be successful in slowing the spread of viruses. Encourage those who don't feel well to stay home, and if they show symptoms, ask them to get tested for the flu or COVID. Self-isolation is important to reduce exposure (CDC quarantine/isolation guidelines). Please work with your faculty members to maintain coursework and please consult existing campus resources for support.