Math 2312.402 - Precalculus, Summer II 2026

MoTuWeThFr 9:00 - 10:40 am
RBN 4024

Instructor:	Dr. Maddie Dawsey
Office:	RBN 4048
Office Hours:	MoWe 11 am - 12 pm and Th 2 - 3 pm (or by appointment)
Email:	mdawsey@uttyler.edu
Website:	All course materials will be posted on Canvas

Textbook

Precalculus from OpenStax (Print ISBN: 1938168348).

This is an open-access textbook, so it is freely available here: www.openstax.org/details/precalculus. You can read it online, download a PDF version, or buy a print copy for about $40 (paperback) or $58 (hardcover).

Course Description

A survey of college algebra, trigonometry, and analytical geometry to prepare students for calculus. Topics include algebraic functions and their graphs, exponential and logarithmic functions, trigonometric functions and identities, and two- and three- dimensional analytical geometry.

Course Learning Objectives

We will cover Chapters 1-7. By the end 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, exponential, 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 description.
- Demonstrate a critical understanding of functions by graphing and analyzing functions, evaluating functions at specific real numbers 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 zeroes.
- Calculate the values of trigonometric functions based on right-triangular and circular definitions.
- Solve right triangles given appropriate information about sides and angles.
- Prove the validity of trigonometric identities.

Important Dates

July 4	Independence Day
July 9	Census Date
July 29	Withdrawal Deadline
August 7	Final Exam

Grading Scheme

Your final letter grade will be determined by the following grading scheme:

Homework	**10%**	A	90 - 100
Quizzes	**10%**	B	80 - 89
Applications	**30%**	C	70 - 79
Midterm Exam	**25%**	D	60 - 69
Final Exam	**25%**	F	0 - 59

Attendance
Students must attend every class in person to complete the required applications, assignments, and exams. If you must miss class for an excused absence, please let Dr. Dawsey know.

Homework (10%)
Homework from the textbook will be posted on Canvas after each class. Homework is designed to check your understanding of the material and prepare you for quizzes and exams. Each week's homework problems will be due on Canvas by the beginning of class the following Tuesday, unless otherwise specified by the professor. Homework will be graded for completion, but solutions will be posted on Canvas following the due date.

Quizzes (10%)
We will have one in-class quiz at the end of each of the six units of precalculus material:

1. Basics of functions
2. Lines
3. Quadratic functions
4. Polynomial and rational functions
5. Exponential and logarithmic functions
6. Trigonometric functions

Each quiz will be 10-15 minutes long and will cover topics selected from its respective unit of material.

Applications (30%)
Most of the in-class time for this course will be spent working in groups on application worksheets for each of the six units of precalculus material. These worksheets will be detailed applications of precalculus material to engineering problems in the real world and will guide students to master the course learning objectives through discovery and group work. The class will be divided into different groups of 3-5 students for each application, and groups will work together to complete the applications. Each application will take roughly 2-5 days of class time, as well as a reasonable amount of time outside of class when necessary.

At the conclusion of each application worksheet, each student will be required to create and submit a final presentation of their responses in the context of the application, with all mathematical steps justified and explained in words, if necessary. Presentations are meant to imitate engineering project proposals or technical presentations that you will be required to submit as engineers in the future.

Exams (25% each)
At the midpoint of the course, there will be a written midterm exam worth 25% of each student's final grade in the course. At the end of the course, there will be a cumulative written final exam worth 25% of each student's final grade in the course. Exams will be during class time. See the tentative exam schedule below.

Midterm Exam	**Friday, July 24**
Final Exam	**Friday, August 7**

Technology
Students must have a device capable of internet access and access to Canvas, as well as either a PDF scanning app (iPhone Notes, Microsoft OneDrive, CamScanner, etc.) or access to a physical scanner. Use of AI is not permitted on any assignments in this class. No laptops, cell phones, calculators, smart watches, headphones, or other devices will be permitted on exams.

Student Resources

The Mathematics Learning Center (MLC), RBN 4021, is an open access computer lab for math students. There are tutors on duty during the fall and spring semesters to assist students who are enrolled in early-career courses. More information can be found here: https://www.uttyler.edu/math/math-learning-center.

The PASS Tutoring Center also offers free tutoring for early-career courses and has walk-in hours. More information, including a current schedule and instructions for making tutoring appointments, can be found here: https://www.uttyler.edu/tutoring.

Other resources that are readily available to you include:

- Your textbook.
- Your professor (via office hours or email).
- Acceptable[1] online resources, such as YouTube videos or free online tutorials.

University Policies

For university policies concerning Students' Rights and Responsibilities, Grade Replacement/Forgiveness, State-Mandated Drop Policy, Disability Services, Student Absence due to Religious Observance, Student Absence for University-Sponsored Events and Activities, Campus Carry, Social Security and FERPA Statement, please see the University Information module on the course Canvas page.

Tentative Schedule

WEEK	DAY	PLANNED ACTIVITIES	BOOK
Week 1 7/6–7/10	Monday Tuesday Wednesday Thursday Friday	Syllabus and Algebra Review Application 1: Basics of Functions	 Ch. 1
Week 2 7/13–7/17	Monday Tuesday Wednesday Thursday Friday	QUIZ 1 and Application 2: Lines QUIZ 2 and Application 3: Quadratic Functions	Ch. 2 Ch. 3
Week 3 7/20–7/24	Monday Tuesday Wednesday Thursday Friday	QUIZ 3 and Application 4: Polynomial/Rational Functions QUIZ 4 and Application 5: Exponential/Logarithmic Functions MIDTERM EXAM (Chapters 1-4)	 Ch. 4
Week 4 7/27–7/31	Monday Tuesday Wednesday Thursday Friday	 QUIZ 5 and Application 6: Angles/Trigonometric Functions	 Ch. 5-7
Week 5 8/3–8/7	Monday Tuesday Wednesday Thursday Friday	 QUIZ 6 and Final Review FINAL EXAM (Chapters 1-7)	

[1]The use of artificial intelligence (AI), online Q&A blogs like Math Stack Exchange, and online solution manuals like Chegg is not permitted in this course. Please refrain from using AI tools and online solutions.