

Math 2312.005 - Precalculus

Fall 2025

TuTh 9:30 - 10:50 am in RBN 4027

Instructor:	Dr. Maddie Dawsey
Office:	RBN 4048
Office Hours:	Tu 8:15 - 9:15 am, Tu 12:30 - 1:30 pm, We 10:10 am - 12:10 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

September 1	Labor Day Holiday
September 8	Census Date
November 4	Withdrawal Deadline
November 24 - 28	Thanksgiving Break
December 8-12	Final Exams

Grading Scheme

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

Homework	20%	definitely an A	90 - 100
In-Class Activities	10%	at least a B	80 - 89.99
Midterm Exams	45% (15% each)	at least a C	70 - 79.99
Final Exam	25%	at least a D	60 - 69.99
		definitely an F	0 - 59.99

Attendance

Students must attend every class in person in order to complete and get credit for the required in-class activities. You are responsible for any announcements made during class.

Homework (20%)

Homework from the textbook will be posted on Canvas after each class. Homework assignments are designed to prepare you for activities and exams, so please take them seriously! Each week's homework problems will be due on Canvas by the beginning of class the following Tuesday, unless otherwise specified by the professor.

On the due date of each homework assignment, we will have an in-class "knowledge check" to assess your understanding of that week's homework. Each knowledge check will take a maximum of 5 minutes and could involve a problem worksheet, a Canvas quiz, an in-class game, a series of mini-presentations, or another short task. Completing the homework yourself using only the allowed resources (lecture notes and textbook, NOT online solution manuals or AI software) is the only effective way to prepare for knowledge checks.

Homework will be graded 50% for completion and submission of all assigned problems, and 50% for your performance on the knowledge check. Late homework will not be graded and will receive a grade of zero. Absence from class on the day of a knowledge check will result in a grade of zero. Your lowest two homework grades will be dropped at the end of the semester.

In-Class Activities (10%)

In class each day, we will work on an activity together as we learn the required precalculus material. After each class, you will be required to submit a single PDF scan of your activity solutions for that day on Canvas – it is recommended that you organize your notes by date. Late submissions will not be graded and will receive a grade of zero. You must attend class in person to get credit for that day's in-class activity. Your lowest activity grade will be dropped at the end of the semester.

Exams

There will be three midterm exams, each worth 15% of the final course grade, and a cumulative final exam worth 25% of the final course grade. The tentative schedule is:

Exam 1	Thursday, September 25
Exam 2	Thursday, October 23
Exam 3	Thursday, November 20
Final Exam	Thursday, December 11 at 9:30 - 11:30 am

You may prepare one 3×5 note card (front and back) to use on each exam, and you must turn in your note card with your exam. No magnifying glasses are allowed, so please write neatly and large enough to read.

Make-up exams for documented absences that are required as part of a UT Tyler obligation or for religious observation will be granted. For all make-ups of this type, prior notification and documentation are required. Other make-ups will be granted only in extreme cases and at the sole discretion of the professor. Missed exams that are not made up within one week will earn a grade of zero.

Technology

Students will be required to 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. No laptops, cell phones, calculators, 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, located in LIB 401, 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.utt Tyler.edu/tutoring>.

Other resources that are readily available to you include:

- Your textbook. Remember that each section has links to relevant online resources and YouTube videos.
- Your professor (via office hours or email).
- Acceptable¹ 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 MATERIAL
Week 1 8/25–8/29	Tuesday Thursday	Algebra Review Section 1.1
Week 2 9/1–9/5	Tuesday Thursday	Section 1.2 Section 1.3
Week 3 9/8–9/12	Tuesday Thursday	Section 1.4 Section 1.5
Week 4 9/15–9/19	Tuesday Thursday	Section 1.6 Section 1.7
Week 5 9/22–9/26	Tuesday Thursday	Section 2.1 EXAM 1 (Chapter 1) and Section 2.2
Week 6 9/29–10/3	Tuesday Thursday	Section 2.3 Section 3.1
Week 7 10/6–10/10	Tuesday Thursday	Section 3.2 Sections 3.3–3.4
Week 8 10/13–10/17	Tuesday Thursday	Sections 3.5–3.6 Section 3.7
Week 9 10/20–10/24	Tuesday Thursday	Section 4.1 EXAM 2 (Chapters 2–3) and Section 4.2
Week 10 10/27–10/31	Tuesday Thursday	Section 4.3 Section 4.4
Week 11 11/3–11/7	Tuesday Thursday	Sections 4.5–4.6 Section 5.1
Week 12 11/10–11/14	Tuesday Thursday	Sections 5.2 and 5.4 Section 6.1
Week 13 11/17–11/21	Tuesday Thursday	Sections 5.3 and 6.2 EXAM 3 (Chapter 4 and Trigonometry) and Section 6.3
Week 14 11/24–11/28	Tuesday Thursday	<i>Thanksgiving Break</i> <i>Thanksgiving Break</i>
Week 15 12/1–12/5	Tuesday Thursday	Sections 7.1–7.2 Sections 7.3–7.5
Week 16	Thursday	FINAL EXAM (Chapters 1–7)

¹The 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.