2025 Fall MATH 1650.420: Precalculus Aug 8 – Dec 12

Instructor Information

Name: Mr. Tekendra Bhatt

Virtual Office Hours

I'm here to support your learning and success in this course. During virtual office hours, you can ask questions, review content, or get help with assignments. Use the ZOOM link in the Canvas Syllabus portal to join during the office hours. Your success matters to me—please don't hesitate to connect.

How to Contact Me

Please reach out whenever you have questions, need clarification, or want to let me know about anything affecting your participation in the course. There are two ways to contact me:

- Canvas Inbox (Preferred): This is the fastest way to reach me.
- UNT Email: If you choose to email, include "MATH 1650.420" in the subject line and use your official UNT email account.

You can expect a response within **one business day**. If you don't hear back, feel free to send a follow-up message.

Please remember to keep all communication respectful and professional, following UNT's General Online Communication Guidelines.

Course Overview

This course strengthens your computational skills and deepens your understanding of key algebraic and trigonometric concepts without relying on a calculator. You'll review, refresh, and build proficiency in solving and analyzing trigonometric functions, sequences, series, exponential and logarithmic functions, and polynomial and rational functions.

More than just preparation for Calculus, this course reinforces what you know while introducing challenging and applicable topics, laying a solid foundation for your future STEM studies. The course is organized into four modules to guide your learning progression.

Catalog Course Description

5 hours. Preparatory course for calculus: trigonometric functions, their graphs and applications; sequences and series; exponential and logarithmic functions and their graphs; graphs of polynomial and rational functions, general discussion of functions and their properties.

Course Prerequisites

The official prerequisite to take Precalculus is a grade of C or higher in MATH 1100.

Students should also have digital literacy skills, including:

Navigate Canvas.

- Complete assignments online.
- Scan and submit online hand-written assignments.
- Download and install course software, Respondus Lock Down Browser.
- Download and print required course materials.

Course Structure

This course takes place 100% online with no required class meeting times. You'll complete all learning and assignments independently, with my support throughout.

All communication, assignments, and materials will be managed through Canvas. There are also weekly assignments in WebAssign. Optional online sessions may be offered, and tips for succeeding in a remote learning environment are available at UNT Online (https://online.unt.edu/learn).

This course begins with the first content module already available on Canvas. New modules will unlock as we progress. This course has four (4) content modules. Module, chapter, and unit are used interchangeably.

Each module includes printable lecture notes that align with the instructional videos. Watch the videos for guided instruction and worked examples and complete the notes as you watch. This simulates the classroom experience and should help you learn and retain the material more effectively.

Course Objectives

Upon completion of this course, the successful student will be able to:

- Apply properties of functions to graphing and modeling.
- Solve equations involving algebraic and transcendental functions.
- Use graphing techniques to graph algebraic and transcendental functions, without using technology.
- Identify and determine exact and approximate trigonometric function values in both radians and degrees.
- Prove trigonometric identities.
- Solve right and oblique triangles.
- Define polar coordinates and graph polar equations.
- Apply the terminology of sequences and series to determine terms and sums.

Required Course Materials

Cengage WebAssign Requirement

This course uses Cengage WebAssign, an essential web-based platform that hosts the majority of your homework, an interactive e-text, and additional resources. Access to WebAssign is required.

WebAssign includes:

- Homework assignments for each content module
- The e-text of *Precalculus: Mathematics for Calculus*, 8th Edition (2025) by James Stewart, Lothar Redlin, and Saleem Watson
- Additional learning resources

You'll register for WebAssign through the Cengage link in Canvas (left-hand navigation). Be sure to register using your official UNT name, as I cannot award credit for work submitted under a different name.

Deadline: Register by the second day of the term. See the Start Here module in Canvas for complete instructions.

Trial Access: If needed, you may begin with a 14-day no-cost trial if you have not previously used this option for this course. Be sure to purchase full access before the trial ends to avoid losing progress or credit for completed work. The 14-day period begins on the first official day of the term.

For more details about purchasing access, refer to the Start Here module in Canvas. Let's start strong!

Note-taking Materials

- Fill-in lecture notes: Available on Canvas.
- Additional materials: Paper and pencil to take notes of video lessons and learning activities.

Calculator Policy

A calculator is permitted only on selected exercises of this entire course, as a primary goal of this course is learning computational skills. For the limited exercises in which a calculator is permitted, many are sufficient for those specific exercises. Acceptable options include the TI-30XIIS, TI-36, TI-83, or TI-84 (or similar Casio, other manufacturers' calculators). The online Desmos (www.desmos.com) will be available on Respondus-monitored exams.

Utilities with alphanumeric/CAS capabilities or that can connect to the internet are NOT acceptable, nor are business analyst calculators. Not acceptable examples include the: TI-Nspire, TI 89, TI 92, TI BAII Plus, and smartphones and smart watches.

Al Policy

Generative AI tools (e.g., ChatGPT, Microsoft Copilot) may be used to check grammar, spelling, and help format or revise your own written work, but their use must be disclosed in your submission. Using AI to produce entire assignments or during exams is prohibited. Violations will be treated as academic integrity issues under university policy.

Technology Requirements

To complete this course, you must have

- A desktop, laptop, or tablet that is compatible with Canvas and the required software.
- Note: Smartphones are **not** sufficient for completing coursework or taking exams.
- Webcam and microphone for proctored tests.
- Reliable internet access is essential.
- Access to Microsoft Excel through UNT Office 365: Microsoft Office 365
- Respondus Lockdown Browser (free download linked in Canvas).
- A printer is strongly recommended.

Check <u>Canvas Technical Requirements</u> to ensure your device is compatible.

Course Evaluation & Grading

Evaluation

Your grade in this course is determined by your performance on the following components:

- Homework (WebAssign) 10%
- Quizzes 10%
- Written Assignments (Worksheets) 10%
- Engagement Tasks (Discussions, Orientation assignments, etc.) 2%
- Midterm Exams (average of all) 50%
- Final Exam 20%

Grading Scale

Letter Grade	Percentage Range	Description
А	90–100%	Outstanding, excellent work
В	80–89%	Good, impressive work
С	70–79%	Solid, college-level performance
D	60–69%	Below average, needs improvement
F	Below 60%	Unsatisfactory, does not meet minimum criteria

Grading Philosophy

Your course grade is based entirely on your individual performance on graded assignments and assessments. I do not grade on a curve, as doing so would compare your results to others. Instead, I encourage you to collaborate with peers to deepen your understanding while focusing on your progress.

Resources for Success

College math success doesn't happen in isolation. Support and collaboration make a big difference. Below are key resources to help you stay on track and strengthen your understanding:

- Instructor Support: Message me through Canvas Inbox. I respond to most student messages in one business day.
- Study Groups: Use the Navigate Study Buddy tool to connect with classmates and study together. Collaborative learning strengthens understanding.
- UNT Math Lab: Free math tutoring in a welcoming environment.
- The Learning Center: Academic coaching, workshops, and tutoring to support your success across all courses.

Course Components

Homework – Learn through Practice

Homework assignments are consistent and structured to help you build proficiency with new content. To that end, you will typically have 3-5 homework assignments per week, starting the first week of class.

The course is structured into four modules, each containing 9-12 sections. Homework assignments, including WebAssign, are all accessed via Canvas.

Maintain a dedicated notebook for your math work. Writing out each step—including the theorems or rules applied—not only reinforces understanding but also creates a valuable resource for exam preparation.

- Attempts: Most WebAssign questions allow up to 5 attempts. True/false and multiple-choice questions typically allow only 1 attempt.
- **Due Dates:** All assignments are due by 11:59 PM on the posted due date. If a deadline conflicts with your schedule, plan ahead and work early.
- Early Submission Bonus: To encourage effective time management, a 5% bonus will be added to any homework submitted more than 48 hours before the deadline.
- Late Work Policy: Late homework is not accepted. However, your three lowest homework scores will be dropped at the end of the term to account for occasional difficulties.
- Additional Assignments: Other graded activities, such as learning support tasks, may also be included in the homework category and will appear in Canvas.

Quizzes

Quizzes help you check your understanding as you progress through the course. These regular, lowerstakes assessments are designed to support your preparation for the module exams.

- For best quiz results, complete the related homework first.
- Quizzes are delivered on Canvas through Respondus Lockdown Monitor.

- New quizzes open on Thursday each week.
- Quizzes are due by 11:59 PM on the following Monday.
- Quizzes are timed and must be completed in one sitting.
- You get two (2) attempts per quiz.
- At the end of the term, one low guiz score will be dropped.

Written Assignment Worksheets

Written submission assignments provide practice in clearly and accurately presenting mathematical work. These assignments emphasize not only correct computation and reasoning, but also mathematical communication – explaining your process in a way that others can follow. Developing these skills is essential for success in this course and future courses.

- Begin each written assignment as you work through the related WebAssign homework.
- Use your first draft to identify and correct errors, then neatly rewrite your final version.
- Correct answers without mathematically valid and clearly communicated work will not receive credit.
- Digital work is not accepted. All submissions must be handwritten by you.
- Submit a learn PDF of your final version to Canvas by 11:59 PM of the due date, which is Friday.

Engagement Tasks

Engagement tasks help you get familiar with course expectations, tools, and the learning process. These may include orientation quizzes, discussion posts, and surveys. They are designed to promote participation and build a sense of connection in our online class.

- Complete all engagement tasks on time to receive credit.
- Tasks are available in Canvas and follow posted due dates.
- They count toward your overall course performance.

Exams

You will have five (5) exams: four (4) midterms and one (1) required final. Content-related questions will not be answered on exam days. Each exam will be available for a 24-hour window.

Exam 1	Sep. 16, Tuesday	Closes at 11:59 PM	Module 1 Function Fundamentals
Exam 2	Oct. 7, Tuesday	Closes at 11:59 PM	Module 2 Algebra of Functions and Algebraic Functions
Exam 3	Oct. 28, Tuesday	Closes at 11:59 PM	Module 3 Transcendental Functions
Exam 4	Dec. 2, Tuesday	Closes at 11:59 PM	Module 4 Analytic Trigonometry
Final Exam	Dec. 9, Tuesday	Closes at 11:59 PM	The final exam is comprehensive.

This course does not accept late work regardless of the reason.

Changes to Syllabus

Changes made to the syllabus will be posted as an Announcement on Canvas.

Course Schedule

Course assignments are due by 11:59 PM on the posted date. To avoid last-minute problems, complete your learning coursework early: read the textbook, print notes, and watch lesson videos while taking notes to prepare for your homework. This helps you understand the material and perform better on assignments. In short, do your coursework before the assignment is due.



₩ Week 1

Date	Assignments Due
08/18 Mon	ORIENTATION QUIZ: Syllabus Quiz
08/19 Tue	ORIENTATION QUIZ: Expectations of an Online Course Quiz
	ORIENTATION QUIZ: Al Use Policy Quiz
08/20 Wed	Module 1.1 (Functions)
	Module 1.2 (Unit Circle)
08/21 Thu	Discussion: Getting Acquainted
08/22 Fri	Module 1.3 (Trig Functions of Real Numbers)
	Worksheet 1



₩ Week 2

Date	Assignments Due
08/25 Mon	Module 1.4 (Modeling with Equations)
	QUIZ: Quiz 1
08/26 Tue	
08/27 Wed	Module 1.5 (Inequalities)
	Module 1.6 (Lines)
08/28 Thu	
08/29 Fri	Module 1.7 (Sequences and Summation Notation)
	Worksheet 2

Date	Assignments Due
09/01 Mon	Labor Day – University Closed
09/02 Tue	QUIZ: Quiz 2
09/03 Wed	Module 1.8 (Arithmetic Sequences)
	Module 1.9 (Geometric Sequences)
09/04 Thu	
09/05 Fri	Module 1.10 (Modeling Variations)
	Worksheet 3

Week 4

Date	Assignments Due
09/08 Mon	Module 1.11 (Graphs of Functions)
	QUIZ: Quiz 3
09/09 Tue	
09/10 Wed	Module 1.12 (Getting Information from Graphs)
09/11 Thu	Discussion: Module 1 – Self-Directed Learning
09/12 Fri	Module 2.1 (Average Rate of Change)
	Worksheet 4

Week 5

Date	Assignments Due
09/15 Mon	QUIZ: Quiz 4
09/16 Tue	Exam 1
09/17 wed	 Module 2.2 (Transformation of Functions) Module 2.3 (Combining Functions)
09/18 Thu	
09/19 Fri	 Module 2.4 (One-to-One Functions and their Inverses) Worksheet 5

Date	Assignments Due
09/22 Mon	Module 2.5 (Quadratic Functions and Models)
	QUIZ: Quiz 5
09/23 Tue	
09/24 wed	Module 2.6 (Polynomial Functions and their Graphs)
09/25 Thu	
09/26 Fri	Module 2.7 (Dividing Polynomials)
	Worksheet 6

Week 7

Date	Assignments Due
09/29 Mon	Module 2.8 (Real Zeros of Polynomials)
	QUIZ: Quiz 6
09/30 Tue	
10/01 Wed	Module 2.9 (Complex Numbers)
	Module 2.10 (Complex Numbers and the Fundamental Thm of Algebra
10/02 Thu	QUIZ: Module 2 – New Discoveries
10/03 Fri	Module 2.11 (Rational Functions)
	Worksheet 7

Week 8

Date	Assignments Due
10/06 Mon	QUIZ: Quiz 7
10/07 Tue	Exam 2
10/08 Wed	Module 3.1 (Trigonometric Graphs)
10/09 Thu	
10/10 Fri	Module 3.2 (More Trigonometric Graphs)
	Worksheet 8

Date	Assignments Due
10/13 Mon	Module 3.3 (Inverse Trig Functions and Graphs)
	QUIZ: Quiz 8
10/14 Tue	
10/15 Wed	Module 3.4 (Exponential Functions
10/16 Thu	
10/17 Fri	Module 3.5 (The Natural Exponential Function) Worksheet 9

Week 10

Date	Assignments Due
10/20 Mon	Module 3.6 (Logarithmic Functions)
	QUIZ: Quiz 9
10/21 Tue	
10/22 Wed	Module 3.7 (Laws of Logarithms)
	Module 3.8 (Exponential and Logarithmic Equations)
10/23 Thu	Discussion: Module 3 – Cultivating a Growth Mindset
10/24 Fri	Module 3.9 (Modeling with Exponential Functions)
	Worksheet 10

Week 11

Date	Assignments Due
10/27 Mon	Module 4.1 (Angle Measure)
	QUIZ: Quiz 10
10/28 Tue	Exam 3
10/29 Wed	Module 4.2 (Trigonometry of Right Angles)
10/30 Thu	
10/31 Fri	Module 4.3 (Trigonometric Functions of Angles)
	Worksheet 11

Date	Assignments Due
11/03 Mon	Module 4.4 (Inverse Trig and Right Triangles)
	QUIZ: Quiz 11
11/04 Tue	
11/05 Wed	Module 4.5 (The Law of Sines)
	Module 4.6 (The Law of Cosines)
11/06 Thu	
11/07 Fri	Module 4.7 (Trigonometric Identities)
	Worksheet 12

Week 13

Date	Assignments Due
11/10 Mon	Module 4.8 (Addition and Subtraction Formulas)
	QUIZ: Quiz 12
11/11 Tue	
11/12 Wed	Module 4.9 (Double Angle and Half-Angle Formulas)
11/13 Thu	
11/14 Fri	Module 4.10 (Basic Trig Equations)
	Worksheet 13

∭ Week 14

Date	Assignments Due
11/17 Mon	QUIZ: Quiz 13
11/18 Tue	
11/19 Wed	Module 4.11 (More Trig Equations)
11/20 Thu	Discussion: Module 4 – Demonstrating and Explaining an Involved Solution
11/21 Fri	Module 4.12 (Polar Coordinates)
	Worksheet 14

Thanksgiving Break (11/24 – 11/28)

Date	Assignments Due
12/01 Mon	QUIZ: Quiz 14
12/02 Tue	Exam 4
12/03 Wed	WebAssign Calculus Readiness Homework
	Time to Prepare for Final Exam
	Time to Prepare for Final Exam

Final Exam: Tuesday, December 9. It is comprehensive and required. You will have a 24-hour window to complete it.

Course Policies

Academic Integrity

Academic honesty is essential to your success and to maintaining the integrity of our university. Cheating, plagiarism, or any form of academic dishonesty will not be tolerated. A student found cheating will receive a zero on that assignment; for exam-related violations, a final course grade of F may be assigned; and all violations will be reported to the Office of Academic Integrity in accordance with UNT Policy 06.003.

Every student in this course is capable of success through honest effort, personal responsibility, and appropriate use of resources.

Attendance

Although this course is online, active participation is required. In this setting, "attendance" means regularly engaging with learning materials, including watching the instructional videos and completing the student lecture notes. The instructor will not repeat entire lectures via email or office sessions.; those times are reserved for specific questions or clarifications.

You are encouraged to work ahead and manage your time effectively. If a schedule conflict arises, complete the work early. For exam scheduling conflicts, request an early exam in advance.

Review UNT's Student Attendance and Authorized Absences Policy for information on excused absences.

Examination Policy

Exams are taken on Canvas using Respondus Lockdown Browser and must be submitted by 11:59 PM on the scheduled date. Late submission are not accepted, regardless of when you start the exam. You may access Exams through the Syllabus tab on the left side of the Canvas navigation menu, or the content module.

If you miss an exam, you will receive a zero for that exam, there are no make-up exams. If the absence qualifies as university excused absence under Policy 06.039 and documentation is provided within two business days, your final exam grade may replace the missed exam score.

Early Exam Request

If you have a conflict with a scheduled exam date, you may request to take your exam early. Please send your request via Canvas Inbox at least one week prior to the desired early exam date.

Exam Protocol

To ensure exam integrity, please follow these guidelines carefully:

- Review the "How to Take Exam with Respondus" module in Canvas before your exam.
- Show a clear desk and testing environment to your webcam.
- Complete the exam alone in a quiet, distraction-free location.
- Once you begin, you have the specified time period to complete the exam, no extensions.
- Do not open the exam until you are fully prepared and your technology is working properly.
- No extra time or re-takes will be granted due to technical difficulties.
- Complete all work neatly and sequentially on your own paper. You may be asked to show your work to the webcam. No valid work means no credit – no exceptions.
- If required, submit your work on Canvas within 15 minutes of finishing your exam. Again, no valid work, no credit – no exceptions
- Work sent via email is not accepted.
- Submitted work much exactly match what you showed on the Respondus webcam. Any discrepancies will result in a zero score for the portion of the exam.

Exam grades will be posted in Canvas within one week. You may request to review specific questions, but all grading decisions are final and not subject to negotiation.

Late Work Policy

UNT is a community of achievers and success depends on staying on schedule. This course maintains high standards and expects students to demonstrate commitment and excellence. To support your success, all coursework must be completed and submitted by the posted due dates—late submissions are **not accepted**.

- Assignments are due by 11:59 PM of the posted due date.
- Exams must be taken on the due date and submitted by 11:59 PM on the due date. See Examination Policy above for possible grade replacement under qualifying circumstances.
- To encourage staying on track, a 5% bonus is awarded on WebAssign homework completed more than 48 hours before the due date.
- Your three lowest homework scores will be dropped at the end of the term to accommodate emergencies.

Student Support Services & Technical Assistance

Academic Support & Student Services

UNT strives to offer you a high-quality education and a supportive environment, so you learn and grow. As a faculty member, I am committed to helping you be successful as a student. To learn more about campus resources and information on how you can be successful at UNT, go to Succeed at UNT (unt.edu/success) and explore the many links at Wellness at UNT (unt.edu/wellness). To get all your enrollment and student financial-related questions answered, go to Integrated Student Services (scrappysays.unt.edu).

Technical Assistance for Online Course System

The University is committed to providing a reliable online course system to all users. However, part of working in the online environment involves dealing with the inconveniences and frustration that can arise when technology breaks down or does not perform as expected. Here at UNT we have a Student Help Desk that you can contact for help with Canvas or other technology issues.

Visit the UIT Help Desk website for their current support hours. Website link, email, phone number, and office location provided as follows:

UIT Help Desk: UIT Student Help Desk (http://www.unt.edu/helpdesk/index.htm)

Email: helpdesk@unt.edu

Phone: 940-565-2324

In Person: Sage Hall, Room 330

Canvas Technical Requirements: Canvas Technical Requirements (https://clear.unt.edu/supported-technologies/canvas/requirements)

Additional Canvas Support: Canvas Technical Help

(https://community.canvaslms.com/docs/DOC-10554-4212710328)

Cengage WebAssign Student Support

Website: WebAssign Student Support

Welcome to UNT!

As members of the UNT community, we have all committed to being part of an institution that respects and values the identities of the students and employees with whom we interact. UNT does not tolerate identity-based discrimination, harassment, and retaliation.

UNT Policies

Academic Integrity Standards and Consequences. Policy

According to UNT Policy 06.003: Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University.

Students in my class can improve their performance by attending class, consistently doing their own work, and accessing appropriate resources. <u>Academic Integrity Policy</u> violations will not. Read and follow this important set of guidelines for your academic success.

ADA Accommodation Statement

UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the ODA will provide a student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one's specific course needs. Students may request accommodations at any time; however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the Office of Disability Access website. (https://disability.unt.edu/).

Access to Information - Eagle Connect

Students' access point for business and academic services at UNT is located at: my.unt.edu. All official communication from the University will be delivered to a student's Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward e-mail Eagle Connect (https://it.unt.edu/eagleconnect).

Emergency Notification and Procedures

UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency. In the event of a university closure, please refer to the UNT Learning Management System, Canvas, for contingency plans for covering course materials.

Student Evaluation Administration Dates

Student feedback is important and an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. The survey will be made available during weeks 13, 14 and 15 of the long semesters to provide students with an opportunity to evaluate how this course is taught. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" (no-reply@iasystem.org) with the survey link. Students should look for the email in their UNT email inbox. Simply click on the link and complete the survey. Once students

complete the survey, they will receive a confirmation email that the survey has been submitted. For additional information, please visit the SPOT website (http://spot.unt.edu/) or email spot@unt.edu.

Important Notice for F-1 Students taking Distance Education Courses

Federal regulations state that students may apply only 3 fully-online semester credit hours (SCH) to the hours required for full-time status for F-1 Visa (PDF) holders. Full-time status for F-1 Visa students is 12 hours for undergraduates and 9 hours for graduate students.

Student Verification

UNT takes measures to protect the integrity of educational credentials awarded to students enrolled in distance education courses by verifying student identity, protecting student privacy, and notifying students of any special meeting times/locations or additional charges associated with student identity verification in distance education courses. See Student Identity Verification Policy, (https://policy.unt.edu/policy/07-002).

Summary of Key Dates – 2025 Fall See Registration Guide.

Aug.18, Monday	Classes Begin
Aug. 22, Friday	Last Day to Add a Class or Swap Sections
Aug. 29, Friday	Last Day to Drop a Class Section Without a W
Aug. 30, Saturday	Drop with a Grade of W Begins
Sept. 26, Friday	Last day to change to pass/no pass grade option
Nov. 07, Friday	Last day for a student to drop a course or all courses with a grade of W.
Nov. 08, Saturday	First day to request a grade of Incomplete. (Beginning this date, a student may request a grade of "I", incomplete, a non-punitive grade given only a student (1) <i>is passing</i> , (2) has justifiable reason why the work cannot be completed on schedule; and (3) arranges with the instructor to complete the work in no more than one academic year.)
Dec. 09, Tuesday	Final Exam

The complete UNT FALL 2025 Semester Calendar can be found here: https://registrar.unt.edu/sites/default/files/fall-2025-academic-calendar.pdf