

MATH 1650.500 Pre-Calculus

Summer 2022

Instructor Contact

Instructor: Yingyu Zhang

Zoom Office Hours: M T W TH 2PM-3PM. Please find Zoom Meeting ID on Canvas under **Syllabus**.

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Communication: Email is the best way to contact me. Please use the Canvas Inbox or email me directly to yingyuzhang@my.unt.edu. Please use your UNT student email addresses. While I will try to reply as soon as possible to your email, please allow 24 hours before inquiring again. Your communication with me and your classmates is expected to be in line with [UNT's General Online Communication Guidelines](#).

Course Description

This is a 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.

Required Text and Access to WebAssign

Textbook: *Precalculus – Mathematic for Calculus*, 7th Edition, by J. Stewart, L. Redlin, S.Watson. It is available online through WebAssign platform.

WebAssign: WebAssign is online course delivery platform accessed directly through [Canvas](#). WebAssign access includes all online homework assignments, the textbook, and additional learning resources. Use the link (any WebAssign assignment link in any Module) in Canvas to register immediately. You must register in WebAssign by the 2nd class day of the semester. See [WebAssign Student Information](#).

A WebAssign access code is required. WebAssign grants a no-cost trial 14-day access. You must purchase your access before the temporary access expires. If you do not make the purchase before trial period ends, you may lose credit for all work previously completed. Again, see [WebAssign Student Information](#) for purchase information.

Grading

Homework (WebAssign) – 10%

Quizzes – 5%

Written Assignments (Worksheets) – 5%

Midterm Exams – 60%

Final Exam – 20%

Engagement Assignments (Syllabus Quiz, Discussion Tasks) – 2%

Grade Distributions:

- A: 90% - 100%
- B: 80% - less than 90%
- C: 70% - less than 80%
- D: 60% - less than 70%
- F: less than 60%

Your exam grades, quiz grades and worksheet (written assignment) grades will be posted in the lecture Canvas, your WebAssign grades in the WebAssign gradebook..

Course Prerequisites or Other Restrictions

- Officially, the prerequisite is a grade of C or higher in [MATH 1100](#).
- A willingness to put in several hours of work each week to absorb each the material in each module. In math courses, especially this one, the content will build upon itself making it very difficult to catch up if you fall behind

Course Objectives

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

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

Course Structure

This course takes place 100% online. There are 8 and half weeks of content that you will move through. There will be two content modules open at the beginning of the course and I will open up to two new modules every other week.

Homework

Each week there will be homework on WebAssign for the sections covered that week. You should be completing the homework as you go through the module during the week. Your lowest three (3) homework scores will be dropped.

On the homework you will generally have 5 attempts on each question with one important exception

Quizzes

There will also be one or two quizzes on each weekly module. The quizzes will be delivered through Canvas, with Respondus Lockdown Monitor. You should work on the homework before you attempt the quiz. The quizzes will open with the weekly module. The quizzes are timed and must be completed in one setting. Your lowest one (1) quiz scores will be dropped.

Exams

There will be 4 midterm exams. These will be administered in Canvas with Respondus Lockdown Browser. Once opened you have 60 minutes to complete the exam.

Do not open the exam unless you are prepared to work, and your technology is ready, and in working order. Extra time will not be granted to account for technical difficulties.

If you miss an exam, you receive a zero for that exam. There are no make-up exams. However, if the student has a [university excused absence](#), according to [06.039 Policy](#), and provides documentation within 48 hours of the missed exam, then the zero will be replaced by the final exam grade

Written Assignments (Worksheets)

You have weekly written assignments/worksheets. These assignments require you to show, in your own handwriting, the mathematical process for problems. **No credit** for digital work. **No credit** for correct answers that do not have mathematically correct supporting work. Worksheets are due Monday following the week assigned.

Attendance

Attendance is important and required. In this class, this means working through the lecture notes with the aid of the instructional videos. It is assumed you will do this. The instructor will not repeat whole lectures or offer personal lessons in office hours or email. These venues are for specific questions/problems.

Changes to Syllabus

I reserve the right to amend, append, or otherwise make changes to this syllabus, should the need arise. Any changes will be posted as an Announcement in Canvas.

Tentative Schedule

Week 1: Functions, The Unit Circle, Trigonometric Functions of Real Numbers, Modeling with Equations.

Week 2: Inequalities, Lines, Modeling Variation, Graphs of Functions,

Getting Information from the Graph of a function. **Exam 1.**

Week 3: Average Rate of Change of a Function, Transformations of Functions, Combining Functions, One-to-One Functions and Their Inverses, Quadratic Functions and Models, Polynomial Functions and Their Graphs.

Week 4: Dividing Polynomials, Real Zero of Polynomials, Complex Numbers, Complex Zero & the Fundamental Theorem of Algebra, Rational Functions. **Exam 2.**

Week 5: Trigonometric Graphs, More Trigonometric Graphs, Inverse Trigonometric Functions and their Graphs, Exponential Functions, The Natural Exponential Function, Logarithmic Functions.

Week 6: Laws of Logarithms, Exponential and Logarithmic Equations, Modeling with Exponential Functions, Angle Measure, The Trigonometry of Right Triangles, **Exam 3**

Week 7: Trigonometric Functions of Angles, Trigonometric Functions and Right Angles, The Law of Sines, The Law of Cosines, Trigonometric Identities.

Week 8: Addition and Subtraction Formulas, Double-Angle and Half-Angle Formulas, Basic Trigonometric Equations, More Trigonometric Equations, Polar Equations, Sequences and Sigma Notation

Week 9: **Exam 4**; Arithmetic Sequences, Geometric Sequences. **Final Exam.**

Technical Requirements & Skills

Minimum Technology Requirements

- Computer, tablet, or laptop that is compatible with all required apps for the course
- A smartphone *is not* sufficient
- Respondus Locked Down Browser must be installed on your device
- Reliable internet
- A scientific or basic graphing calculator (TI-84 or equivalent) is recommended, BUT NOT PERMITTED on exams
- Scanner (many free apps available for smartphones)
- Webcam/microphone for office hour visits
- Printer, not necessary but helpful

Technical Skills & Digital Literacy

- Navigate Canvas and WebAssign

- Scan documents and create pdf files (there are several free scanning apps for phones / tablets like Adobe Scan or Office Lens)
- Download and install software (prepare computer for Respondus Lockdown Browser)
- Upload documents to Canvas
- Complete assignments on WebAssign

Getting Help

Technical Assistance

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.

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

Email: helpdesk@unt.edu

Phone: 940-565-2324

In Person: Sage Hall, Room 130

Walk-In Availability: 8am-9pm

Telephone Availability:

- Sunday: noon-midnight
- Monday-Thursday: 8am-midnight
- Friday: 8am-8pm
- Saturday: 9am-5pm

Laptop Checkout: 8am-7pm

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

Additional Canvas Support: [Canvas Technical Help](https://community.canvaslms.com/docs/DOC-10554-4212710328)
(<https://community.canvaslms.com/docs/DOC-10554-4212710328>)

Cengage WebAssign Technical Support

WebAssign offers student technical support

Phone: 800.354.9707

Website: [WebAssign Student Support](#)

Academic Support Services

- [UNT Math Lab](https://learningcenter.unt.edu/math-lab) (<https://learningcenter.unt.edu/math-lab>)
- [UNT Learning Center](https://learningcenter.unt.edu) (<https://learningcenter.unt.edu>)

- [Academic Resource Center](https://clear.unt.edu/canvas/student-resources) (https://clear.unt.edu/canvas/student-resources)
- [Academic Success Center](https://success.unt.edu/asc) (https://success.unt.edu/asc)
- [UNT Libraries](https://library.unt.edu/) (https://library.unt.edu/)
- [Writing Lab](http://writingcenter.unt.edu/) (http://writingcenter.unt.edu/)

Student Support Services

UNT provides mental health resources to students to help ensure there are numerous outlets to turn to that wholeheartedly care for and are there for students in need, regardless of the nature of an issue or its severity. Listed below are several resources on campus that can support your academic success and mental well-being:

- [Student Health and Wellness Center](https://studentaffairs.unt.edu/student-health-and-wellness-center) (https://studentaffairs.unt.edu/student-health-and-wellness-center)
- [Counseling and Testing Services](https://studentaffairs.unt.edu/counseling-and-testing-services) (https://studentaffairs.unt.edu/counseling-and-testing-services)
- [UNT Care Team](https://studentaffairs.unt.edu/care) (https://studentaffairs.unt.edu/care)
- [UNT Psychiatric Services](https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry) (https://studentaffairs.unt.edu/student-health-and-wellness-center/services/psychiatry)
- [Individual Counseling](https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling) (https://studentaffairs.unt.edu/counseling-and-testing-services/services/individual-counseling)

Other student support services offered by UNT include:

- [Registrar](https://registrar.unt.edu/registration) (https://registrar.unt.edu/registration)
- [Financial Aid](https://financialaid.unt.edu/) (https://financialaid.unt.edu/)
- [Student Legal Services](https://studentaffairs.unt.edu/student-legal-services) (https://studentaffairs.unt.edu/student-legal-services)
- [Career Center](https://studentaffairs.unt.edu/career-center) (https://studentaffairs.unt.edu/career-center)
- [Multicultural Center](https://edo.unt.edu/multicultural-center) (https://edo.unt.edu/multicultural-center)
- [Counseling and Testing Services](https://studentaffairs.unt.edu/counseling-and-testing-services) (https://studentaffairs.unt.edu/counseling-and-testing-services)
- [Pride Alliance](https://edo.unt.edu/pridealliance) (https://edo.unt.edu/pridealliance)
- [UNT Food Pantry](https://deanofstudents.unt.edu/resources/food-pantry) (https://deanofstudents.unt.edu/resources/food-pantry)

UNT Policies

Academic Integrity Policy

Cheating on tests, quizzes or final exams is a serious breach of academic standards and will be punished severely and generally result in a student failing the course. All work done on exams and quizzes must represent only the student's own work, unless otherwise stated in the directions. 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. See [Academic Integrity](#) for details on academic integrity at UNT.

Acceptable Student Behavior

Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student's conduct violated the Code of Student Conduct. The University's expectations for student conduct apply to all instructional forums, including University and electronic classroom, labs, discussion groups, field trips, etc. Visit UNT's [Code of Student Conduct](https://deanofstudents.unt.edu/conduct) (https://deanofstudents.unt.edu/conduct) to learn more.

ADA Policy

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](https://disability.unt.edu/) website. (https://disability.unt.edu/).

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 Canvas for contingency plans for covering course materials.

Important Notice for F-1 Students taking Distance Education Courses

Federal Regulation

To read detailed Immigration and Customs Enforcement regulations for F-1 students taking online courses, please go to the [Electronic Code of Federal Regulations website](http://www.ecfr.gov/) (http://www.ecfr.gov/). The specific portion concerning distance education courses is located at Title 8 CFR 214.2 Paragraph (f)(6)(i)(G).

The paragraph reads:

(G) For F-1 students enrolled in classes for credit or classroom hours, no more than the equivalent of one class or three credits per session, term, semester, trimester, or quarter may be counted toward the full course of study requirement if the class is taken on-line or through distance education and does not require the student's physical attendance for classes, examination or other purposes integral to completion of the class. An on-line or distance education course is a course that is offered principally through the use of television, audio, or computer transmission including open broadcast, closed circuit, cable, microwave, or satellite, audio conferencing, or computer conferencing. If the F-1 student's course of study is in a language study program, no on-line or distance education classes may be considered to count toward a student's full course of study requirement.

University of North Texas Compliance

To comply with immigration regulations, an F-1 visa holder within the United States may need to engage in an on-campus experiential component for this course. This component (which must be approved in advance by the instructor) can include activities such as taking an on-campus exam, participating in an on-campus lecture or lab activity, or other on-campus experience integral to the completion of this course.

If such an on-campus activity is required, it is the student's responsibility to do the following:

(1) Submit a written request to the instructor for an on-campus experiential component within one week of the start of the course.

(2) Ensure that the activity on campus takes place and the instructor documents it in writing with a notice sent to the International Student and Scholar Services Office. ISSS has a form available that you may use for this purpose.

Because the decision may have serious immigration consequences, if an F-1 student is unsure about his or her need to participate in an on-campus experiential component for this course, s/he should contact the UNT International Student and Scholar Services Office (telephone 940-565-2195 or email internationaladvising@unt.edu) to get clarification before the one-week deadline.

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 [UNT Policy 07-002 Student Identity Verification, Privacy, and Notification and Distance Education Courses](https://policy.unt.edu/policy/07-002) (<https://policy.unt.edu/policy/07-002>).

Summary of Key Dates – Summer 2022

<https://registrar.unt.edu/registration/summer-registration-guide>