

MATH 1720.310 CALCULUS II (Fall 2023)

Instructor Contact

Name: Jake Williams (he/him/his)

Office Location: GAB 442A

Office Hours: MW 3 pm – 4:30 pm

Email: Jake.Williams@UNT.edu

Communication Expectations: I communicate with my students primarily through Outlook 365, which is provided to all UNT students. Using the Canvas inbox is acceptable, but email is preferred; all communications with students initiated by me will be via email. You can expect to hear back from me within one (1) business day on weekdays. Emails received on weekends or outside of normal business hours (8 am to 5 pm) may have a delayed response until the next business day. For additional information on communication expectations between students and instructors, see CLEAR's guidelines at (<https://clear.unt.edu/online-communication-tips>).

Course Description

Meeting time: MW 6:00 pm – 8:20 pm

Meeting room: GAB 310

Course content: Differentiation and integration of exponential, logarithmic and transcendental functions; integration techniques; indeterminate forms; improper integrals; area and arc length in polar coordinates; infinite series; power series; Taylor's theorem.

Required Text/Materials

The textbook is Stewart, James, *Calculus*, 9th Edition. It is available online through WebAssign platform.

Cengage WebAssign: WebAssign is online course delivery platform accessed directly through Canvas. WebAssign access includes all online homework assignments, the e-text of *Calculus 9th Edition* by James Stewart, and additional learning resources. Use the link in Canvas to register immediately. You must register in WebAssign by the 2nd class day of the semester. WebAssign grants a free temporary 14-day access, starting the first day of the course (not the first day you activate). 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.

Grading

Breakdown:

Homework (WebAssign) – 20%

Quizzes (In-class only) – 15%

Calculus I Review Assignment – 5%

Midterm Exams – 45%

Final Exam – 15%

Letter grade assignment:

A: 90-100%

B: 80-89%

C: 70-79%

D: 60-69%

F: 59% and below

A student's grade will not be rounded up by more than 0.5% when final grades are assigned.

Course Structure

This course will meet in person two (2) times per week, face-to-face, for a combined lecture and recitation with a short break in between. There will be regular homework, three (3) midterm exams, and quizzes and/or activities during recitation.

Homework

Each week there will be homework on WebAssign for the sections covered that week. The homework will be due by 11:59 PM on Wednesday of the following week. For instance, in week 1 we will certainly cover 6.1. Thus, the homework on this section will need to be completed by Wednesday night during week 2. This is to give ample time and flexibility should the unexpected happen, but ideally you should be completing the homework as you go through the module during the week. To provide an incentive, you will receive a 5% bonus for any work on the homework completed more than 48 hours before the deadline. Keep in mind you will have to check WebAssign frequently to keep up with the due dates, since there will not be reminders in Canvas. Your lowest four (4) homework scores will be dropped.

On the homework you will generally have 10 attempts on each question with two important exceptions: the Calculus Readiness review mentioned above and some questions on convergence tests for series.

Late work will not be accepted in this course, regardless of the reason.

Quizzes

There will also be a quiz or activity periodically during the second half of class (which serves as our recitation) covering the material from the prior week. Your lowest two (2) quiz scores will be dropped.

Exams

There will be three (3) midterm exams administered in person during lecture. There are NO remote/online options for exams.

If you miss an exam, you receive a zero for that exam. There are no make-up exams. However, your lowest exam grade (including a zero from a missed exam) may be replaced by your score on the final exam if it is higher. You may ask me to go over exam problems with you. However, all decisions on partial credit are final and not open for discussion.

Calculus I Review

During the first three weeks of the semester, you will need to complete a somewhat lengthy review assignment in WebAssign. This assignment goes over the main topics from Calculus I to make sure you are prepared for this (and future classes). You will have 100 attempts on each question, so that you have ample opportunity to review and get it right. This assignment is 5% of your grade.

Attendance

Attendance is important and required. In this class, this means looking alive in class and working through the examples in lecture and recitation as we go. 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.

Course Prerequisites or Other Restrictions

- Officially, the prerequisite is a grade of C or higher in MATH 1710.
- 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

Academic Dishonesty

Cheating will not be tolerated. Any student found cheating will receive no credit on the assignment and a report will be filed with the office of academic integrity.

Course Objectives

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

- Compute derivatives and antiderivatives of functions built from basic transcendental functions.
- Understand and apply exponential models to make predictions.
- Resolve limits in an indeterminate form using L'Hospital's rule in concert with other techniques.
- Apply the integration by parts formula to compute definite and indefinite integrals.
- Compute definite and indefinite integrals of powers and products of trigonometric functions.
- Apply trigonometric substitution to calculate definite and indefinite integrals.
- Develop a rational function in partial fractions and then find an antiderivative.
- Recognize the appropriate integration technique for an antiderivative.
- Approximate definite integrals using various methods.
- Recognize improper integrals and determine if they converge.
- Apply the techniques for finding limits of functions to limits of sequences.
- Evaluate the sums of geometric and telescoping series.
- Understand and apply an appropriate test to determine series convergence.
- Distinguish to between absolute and conditional convergence.
- Represent functions by power series (including determining radius of convergence).
- Use Taylor polynomials in approximation problems.
- Graph parametric curves and determine the slopes of their tangent lines (including horizontal and vertical tangents).
- Express points and curves in polar coordinates.
- Find tangents to polar curves.
- Determine the area of a region bounded by a polar curve.

Technical Requirements & Skills

Minimum Technology Requirements

- Access to a computer, tablet, or laptop that is compatible with all required apps for the course
- Access to reliable internet
- A scientific or basic graphing calculator (TI-84 or equivalent) is recommended

Technical Skills & Digital Literacy

- Navigate Canvas and WebAssign
- Complete assignments on WebAssign
- Scan documents and create pdf files (there are several free scanning apps for phones / tablets like Adobe Scan or Office Lens)
- Upload documents to Canvas

Calculator Policy

Many calculators will be sufficient for the exams in this class. Among good options are the TI-30XIIS, TI83 or TI-84 (or similar Casio, other manufacturer's calculators). Examples of calculators not allowed: TINspires, TI 92's, TI 89's. Any other utility with alphanumeric/CAS capabilities or the ability to connect to the internet, such as a smartphone, is not allowed.

Tentative Schedule

This is a rough outline of what we will be covering and when. I reserve the right to change this schedule as needed, and will notify the class if and when this happens. The student is responsible for keeping track of such notifications inside and outside of class.

Chapter 6 8/21 – 9/13 Exam 1 on 9/18	6.1 Inverse Functions 6.2 The Natural Logarithm Function 6.3 The Natural Exponential Function 6.4 General Logarithmic and Exponential Functions 6.5 Exponential Growth and Decay 6.6 Inverse Trigonometric Functions 6.8 Indeterminate Forms and L'Hospital's Rule
Chapter 7 9/20 – 10/9 Exam 2 on 10/11	7.1 Integration by Parts 7.2 Trigonometric Integrals 7.3 Trigonometric Substitution 7.4 Integration by Partial Fractions 7.8 Improper Integrals 7.7 Approximate Integration
Chapter 11 10/13 – 11/20 Exam 3 on 11/22	11.1 Sequences 11.2 Series 11.3: The Integral Test and Estimates of Sums

	11.4: The Comparison Tests 11.5: Alternating Series 11.6: Absolute Convergence, Ratio and Root tests 11.8: Power Series 11.9: Representation of Functions as Power Series 11.10: Taylor and Maclaurin Series 11.11: Applications of Taylor Polynomials
Chapter 10 11/27 – 12/6	10.1: Curves defined by parametric equations 10.2: Calculus with parametric curves 10.3: Polar coordinates 10.4: Areas in polar coordinates
Cumulative Final Exam Monday, 12/11 from 6:30 pm to 8:30 pm	

Summary of Key Dates – Fall 2023:

August 21, Monday

Classes begin.

August 25, Friday

Last day for change of schedule other than a drop. (Last day to add a class.)

September 1, Tuesday

Last day to drop a course section to no longer appear on the official transcript.

September 29, Friday

Last day to change to pass/no pass

November 10, Friday

Last day to drop a course

November 11, Saturday

Beginning this date, a student may request a grade of "I", incomplete, a non-punitive grade given only if a student (1) is passing, (2) has justifiable reason why the work cannot be completed on schedule, and (3) arranges with the instructor to complete the work.

December 8, Friday

Reading day; no class

December 9, Saturday – December 15, Friday

Final examinations. Term ends.

Welcome to UNT!

As members of the UNT community, we have all made a commitment to be 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's full Non-Discrimination Policy can be found in the UNT Policies section of the syllabus.

Rules of Engagement

Rules of engagement refer to the way students are expected to interact with each other and with their instructors. Here are some general guidelines:

- While the freedom to express yourself is a fundamental human right, any communication that utilizes cruel and derogatory language on the basis of race, color, national origin, religion, sex, sexual orientation, gender identity, gender expression, age, disability, genetic information, veteran status, or any other characteristic protected under applicable federal or state law will not be tolerated.
- Treat your instructor and classmates with respect in any communication online or face-to-face, even when their opinion differs from your own.
- Ask for and use the correct name and pronouns for your instructor and classmates.
- Speak from personal experiences. Use "I" statements to share thoughts and feelings. Try not to speak on behalf of groups or other individual's experiences.
- Use your critical thinking skills to challenge other people's ideas, instead of attacking individuals.
- Avoid using all caps while communicating digitally. This may be interpreted as "YELLING!"
- Be cautious when using humor or sarcasm in emails or discussion posts as tone can be difficult to interpret digitally.
- Avoid using "text-talk" unless explicitly permitted by your instructor.
- Proofread and fact-check your sources.
- Keep in mind that online posts can be permanent, so think first before you type.

See these [Engagement Guidelines](https://clear.unt.edu/online-communication-tips) (https://clear.unt.edu/online-communication-tips) for more information.

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.

UIT Help Desk: [UIT Student Help Desk site](https://www.unt.edu/helpdesk) (<https://www.unt.edu/helpdesk>)

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

For additional support, visit [Canvas Technical Help](https://community.canvaslms.com/docs/DOC-10554-4212710328) (<https://community.canvaslms.com/docs/DOC-10554-4212710328>)

UNT Policies

Academic Integrity 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.

ADA Policy

UNT makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (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 [ODA website](https://disability.unt.edu/) (<https://disability.unt.edu/>).

Prohibition of Discrimination, Harassment, and Retaliation (Policy 16.004)

The University of North Texas (UNT) prohibits discrimination and harassment because of race, color, national origin, religion, sex, sexual orientation, gender identity, gender expression, age, disability, genetic information, veteran status, or any other characteristic protected under applicable federal or state law in its application and admission processes; educational programs and activities; employment policies, procedures, and processes; and university facilities. The University takes active measures to prevent such conduct and investigates and takes remedial action when appropriate.

Emergency Notification & Procedures

UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency (i.e., severe weather, campus closing, and health and public safety emergencies like chemical spills, fires, or violence). In the event of a university closure, please refer to Canvas for contingency plans for covering course materials.

Retention of Student Records

Student records pertaining to this course are maintained in a secure location by the instructor of record. All records such as exams, answer sheets (with keys), and written papers submitted during the duration of the course are kept for at least one calendar year after course completion. Course work completed via the Canvas online system, including grading information and comments, is also stored in a safe electronic environment for one year. Students have the right to view their individual record; however, information about student's records will not be divulged to other individuals without proper written consent. Students are encouraged to review the Public Information Policy and the Family Educational Rights and Privacy Act (FERPA) laws and the University's policy. See UNT Policy 10.10, Records Management and Retention for additional information.

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.

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) (https://it.unt.edu/eagleconnect).

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/) (http://spot.unt.edu/) or email spot@unt.edu.

Survivor Advocacy

UNT is committed to providing a safe learning environment free of all forms of sexual misconduct. Federal laws and UNT policies prohibit discrimination on the basis of sex as well as sexual misconduct. If you or someone you know is experiencing sexual harassment, relationship violence, stalking and/or

sexual assault, there are campus resources available to provide support and assistance. The Survivor Advocates can be reached at SurvivorAdvocate@unt.edu or by calling the Dean of Students Office at 940-5652648.

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>).

Use of Student Work

A student owns the copyright for all work (e.g. software, photographs, reports, presentations, and email postings) he or she creates within a class and the University is not entitled to use any student work without the student's permission unless all of the following criteria are met:

- The work is used only once.
- The work is not used in its entirety.
- Use of the work does not affect any potential profits from the work.
- The student is not identified.
- The work is identified as student work.

If the use of the work does not meet all of the above criteria, then the University office or department using the work must obtain the student's written permission.

Download the UNT System Permission, Waiver and Release Form

Transmission and Recording of Student Images in Electronically-Delivered Courses

1. No permission is needed from a student for his or her image or voice to be transmitted live via videoconference or streaming media, but all students should be informed when courses are to be conducted using either method of delivery.
2. In the event an instructor records student presentations, he or she must obtain permission from the student using a signed release in order to use the recording for future classes in accordance with the Use of Student-Created Work guidelines above.
3. Instructors who video-record their class lectures with the intention of re-using some or all of recordings for future class offerings must notify students on the course syllabus if students' images may appear on video. Instructors are also advised to provide accommodation for students who do not wish to appear in class recordings.

Example: This course employs lecture capture technology to record class sessions. Students may occasionally appear on video. The lecture recordings will be available to you for study purposes and may also be reused in future course offerings.

No notification is needed if only audio and slide capture is used or if the video only records the instructor's image. However, the instructor is encouraged to let students know the recordings will be available to them for study purposes.

Class Recordings & Student Likenesses

In case synchronous (live) sessions in this course will be recorded for students enrolled in this class section to refer to throughout the semester: Class recordings are the intellectual property of the university or instructor and are reserved for use only by students in this class and only for educational purposes. Students may not post or otherwise share the recordings outside the class, or outside the Canvas Learning Management System, in any form. Failing to follow this restriction is a violation of the UNT Code of Student Conduct and could lead to disciplinary action.

Academic Support & Student Services

Student Support Services

Mental Health

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)

Chosen Names

A chosen name is a name that a person goes by that may or may not match their legal name. If you have a chosen name that is different from your legal name and would like that to be used in class, please let the instructor know. Below is a list of resources for updating your chosen name at UNT.

- [UNT Records](#)
- [UNT ID Card](#)
- [UNT Email Address](#)
- [Legal Name](#)

**UNT eUIDs cannot be changed at this time. The collaborating offices are working on a process to make this option accessible to UNT community members.*

Pronouns

Pronouns (she/her, they/them, he/him, etc.) are a public way for people to address you, much like your name, and can be shared with a name when making an introduction, both virtually and in-person. Just as we ask and don't assume someone's name, we should also ask and not assume someone's pronouns.

You can [add your pronouns to your Canvas account](#) so that they follow your name when posting to discussion boards, submitting assignments, etc.

Below is a list of additional resources regarding pronouns and their usage:

- [What are pronouns and why are they important?](#)
- [How do I use pronouns?](#)
- [How do I share my pronouns?](#)
- [How do I ask for another person's pronouns?](#)
- [How do I correct myself or others when the wrong pronoun is used?](#)

Additional Student Support Services

- Registrar (<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://idea.unt.edu/multicultural-center) (<https://idea.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://idea.unt.edu/pridealliance) (<https://idea.unt.edu/pridealliance>)
- [UNT Food Pantry](https://studentaffairs.unt.edu/food-pantry) (<https://studentaffairs.unt.edu/food-pantry>)

Academic Support Services

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

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