

MATH 1720.120 Calculus II (Summer 2, 2026)

Instructor Information

Instructor: Thomas Matheos

Email: thomas.matheos@unt.edu

Course Meets: MTWR 12pm–1:50pm in LIFE A419, Recitation MTWR and Friday

Office Location: GAB 480

Office Hours: Fridays 9am – 11am in GAB 480, or by appointment (email me)

Course Description, Format, and Objectives

Course Description in University Catalogue:

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.

Course Format:

This is an in-person five week course. The class meets four times a week, and recitation sections meet five times a week. A lot of content is covered in lecture, but most of the learning is expected to happen while studying outside of class.

There will be a graded homework assignment due at the start of every class period except for the first one. There will be a graded quiz, worksheet, or exam during every recitation. There are additional extra credit practice assignments available on WebAssign, accessed through Canvas.

Recitation:

The recitation instructor for this course is Michael Huerta, Michael.Huerta@unt.edu. The recitation schedule is:

121 meets MTWR 2pm – 2:50pm and F 12pm – 1:50pm in GAB 317

122 meets MTWR 3pm – 3:50pm and F 2pm – 3:50pm in GAB 317

Course Objectives:

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

- Compute derivatives and antiderivatives of functions built from the basic transcendental functions.
- Understand and apply exponential models to make predictions.
- Resolve limits in an indeterminate form using L'Hopital's rule in concert with other techniques.
- Apply the integration by parts formula to 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.
- Approximate definite integrals.
- Recognize improper integrals and determine if they converge.
- Apply the techniques for finding limits of functions to 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.

How to Succeed in this Course

This course covers in only five weeks as much material as is covered during a regular semester. As such, the pace is quite fast. The material requires a lot of practice to become comfortable with, and I highly recommend consistent practice throughout the semester as opposed to cramming before quizzes and exams. The material often builds on previous material so if you have any questions please ask right away. In previous courses, students have found coming to office hours particularly helpful. Another useful resource is the UNT MathLab, located in SAGE 130.

Email: thomas.matheos@my.unt.edu

Office: GAB 480

Office Hours: Fridays 9am – 11am or by appointment (email me)

Office hours offer you an opportunity to ask for clarification or find support with understanding class material. Come visit me! I encourage you to connect with me and/or my TA for support. I am happy to hold additional office hours, in person and virtually, just email me to schedule. Your success is our goal. During busy times, my inbox becomes rather full, so if you contact me and do not receive a response within one business days, please send a follow up email. A gentle nudge is always appreciated.

Additional help is available through:

UNT Math Lab: The Math Lab is a walk-in tutoring lab that provides free math tutoring for students enrolled in an undergraduate College of Science course at UNT. The Math Lab is staffed by mathematics graduate students and undergraduate students with a passion for math. Math Lab tutors answer specific questions, check that you are approaching a concept correctly, work with and offer alternative problems, and help clarify concepts. Check out all that the Math Lab has to offer by stopping by at Sage Hall 130 or checking it out online at [UNT Math Lab](#).

UNT Tutoring Services: The Learning Center offer a variety of tutoring services designed to help you succeed at UNT. The tutors there answer specific questions, check that you are approaching a concept correctly, work with and offer alternative problems, and help clarify concepts. Please note, The Learning Center's Tutoring Services will not work on homework or assignment problems for you, check assignment answers, assist with take-home quizzes or essays, or repeat class lectures. Schedule an in-person or online appointment with a Lead Tutor who will help you navigate course content. For more information check [UNT Tutoring Services](#).

UNT strives to offer a high-quality education in a supportive environment where you can learn, grow, and thrive. As a faculty member, I am committed to supporting you, and I want to remind you that UNT offers a range of mental health and wellness services to help maintain balance and well-being. Utilizing these resources is a

proactive way to support your academic and personal success. To explore campus resources designed to support you, check out [mental health services \(https://clear.unt.edu/student-support-services-policies\)](https://clear.unt.edu/student-support-services-policies), visit unt.edu/success, and explore unt.edu/wellness. To get all your enrollment and student financial-related questions answered, go to scrappysays.unt.edu.

UNT ADA accommodation statement:

The University of North Texas makes reasonable accommodations for students with disabilities. To request accommodations, you must first register with the Office of Disability Access (ODA) by completing an application for services and providing documentation to verify your eligibility each semester. Once your eligibility is confirmed, you may request your letter of accommodation. ODA will then email your faculty a letter of reasonable accommodation, initiating a private discussion about your specific needs in the course.

You can request accommodations at any time, but it's important to provide ODA notice to your faculty as early as possible in the semester to avoid delays in implementation. Keep in mind that you must obtain a new letter of accommodation for each semester and meet with each faculty member before accommodations can be implemented in each class. You are strongly encouraged to meet with faculty regarding your accommodations during office hours or by appointment. Faculty have the authority to ask you to discuss your letter during their designated office hours to protect your privacy. For more information and to access resources that can support your needs, refer to the [Office of Disability Access](https://studentaffairs.unt.edu/office-disability-access) website (<https://studentaffairs.unt.edu/office-disability-access>).

Supporting Your Success and Creating an Inclusive Learning Environment

I value the many perspectives students bring to our campus. Please work with me to create a classroom culture of open communication, mutual respect, and belonging. All discussions should be respectful and civil. Every student in this class should have the right to learn and engage within an environment of respect and courtesy from others. Together, we can ensure a safe and welcoming classroom for all. If you ever feel like this is not the case, please stop by my office and let me know. We are all learning together. [Code of Student Conduct \(https://policy.unt.edu/policy/07-012\)](https://policy.unt.edu/policy/07-012)

Required Text/Materials

Cengage WebAssign: WebAssign is online course delivery platform accessed directly through [Canvas](https://canvas.unt.edu). 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.

The textbook is Stewart, James, *Calculus, 9th Edition*. It is available online through WebAssign platform. WebAssign grants a no-cost 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 the trial period ends, you may lose credit for all work previously completed.

This course has digital components. To fully participate in this class, students will need internet access to reference content on the Canvas Learning Management System and WebAssign. If circumstances change, you will be informed of other technical needs to access course content. Information on how to be successful in a digital learning environment can be found at [Learn Anywhere \(https://online.unt.edu/learn\)](https://online.unt.edu/learn).

Course Schedule

<i>Date</i>	<i>Topic</i>	<i>Assignment</i>	<i>Points Possible</i>	<i>Textbook Chapters</i>
06/22	Some 1710 Review, Sequences	Review Worksheet	5	1-5, 11
06/23	Inverse Functions, Trig Review, Logarithms	Worksheet	5	6
06/24	Inverse Trig., Sequence Convergence	Worksheet	5	6, 7, 11
06/25	L'Hôpital, Parametrization	Quiz: Inverse Functions	20	6, 10
06/26	No Class, Worksheet in Recitation	Worksheet	5	
06/29	Integration By Parts	Worksheet	5	7
06/30	Partial Fraction Decomposition	Worksheet	5	7
07/01	Improper Integrals	Quiz: Integration	20	7
07/02	Integral Practice, Sequences of Partial Sums, Geometric Series	Worksheet	5	7, 11
07/03	No Class, Exam review in Recitation	Worksheet	5	6, 7, 11
07/06	Exam Review, Exam 1 in Recitation	Exam 1	100	
07/07	Comparison Test, Alternating Series	Worksheet	5	11
07/08	Integral Test, Factorial vs. Exponential	Worksheet	5	11
07/09	Absolute Convergence, Root and Ratio Tests	Worksheet	5	11
07/10	No Class, Quiz in Recitation	Quiz: Series Convergence	20	11
07/13	Series Practice, Series of Functions	Worksheet	5	11
07/14	Review, Exam 2 in Recitation	Exam 2	100	11
07/15	Power Series, Step Function	Worksheet	5	11
07/16	Taylor Series	Worksheet	5	11
07/17	No Class, Quiz in Recitation	Quiz: Taylor Series	20	11
07/20	Taylor Series and some applications	Worksheet	5	11
07/21	Arc Lengths, Polar Coordinates	Worksheet	5	10
07/22	Calculus in Polar Coordinates	Worksheet	5	10
07/23	Review	None	0	
07/24	Final Exam, 12:pm – 2pm, LIFE A419	Final Exam	100	Cumulative

This calendar is subject to change, and may be updated throughout the semester. Students will be notified by Eagle Alert if there is a campus closing that will impact a class.

UNT has the following campus closure policy description: UNT is committed to the safety and security of the campus community and recognizes the value of maintaining university operations. However, in the event university operations are disrupted due to an emergency or other hazardous conditions threatening the safety, health, or welfare of the campus community, UNT may be required to cancel classes, suspend operations, or close campus in its entirety.

The full policy may be found here: [Campus Closures Policy \(https://policy.unt.edu/policy/15-006\)](https://policy.unt.edu/policy/15-006).

Assessing Your Work

A student's final grade in this class will not be lower than the points earned on assignments divided by the total points possible, and reflected by the following scale:

A = 90 – 100

B = 80 – 89

C = 70 – 79

D = 60 – 69

F = 0 – 59

Extra credit may be granted for a variety of reasons, including conscientious participation and outstanding work on the final exam.

In general, late work will not be accepted. If extenuating circumstances arise, email me.
thomas.matheos@unt.edu

Please review UNT's [Academic Integrity Policy \(PDF\)](https://policy.unt.edu/policy/06-003) (<https://policy.unt.edu/policy/06-003>).

You may also find helpful the information found here: [Student Support Services & Policies](https://clear.unt.edu/student-support-services-policies) (<https://clear.unt.edu/student-support-services-policies>).

GenAI use

In this course, you are encouraged to use Generative AI (GenAI) tools such as ChatGPT or Gemini to support your learning and studying. However, GenAI should complement, not replace, our course materials. You may not use GenAI during class or recitation, and you may not use GenAI to assist with any work that is submitted for a grade. If something seems unclear, feel free to ask.

In line with the UNT Honor Code, all work you submit must be your own. Using GenAI tools without attribution or relying on them to complete assignments violates academic integrity and will be addressed according to our policy. [Student Academic Integrity policy](https://policy.unt.edu/policy/06-003) (<https://policy.unt.edu/policy/06-003>).

Attendance and Participation

Research has shown that students who attend class are more likely to be successful. You should attend every class unless you have a university excused absence such as active military service, a religious holy day, or an official university function as stated in the [Student Attendance and Authorized Absences Policy \(PDF\)](https://policy.unt.edu/policy/06-039) (<https://policy.unt.edu/policy/06-039>). There will be graded in-class activities nearly every class and recitation period. If you cannot attend a class due to an emergency, please let me know. Your safety and well-being are important to me.

Also, I understand there may be non-emergency circumstances which prevent students from coming to class. I have great respect for students who are balancing the demands of their coursework with other responsibilities they have. If you run into challenges that require you to miss a class, please contact me (if you will miss recitation, contact me and your TA). There may be some flexibility we can offer to support your academic success.