# 2026 Fall Math 1190.011
# August 17 – December 11

## Welcome

Welcome to Business Calculus. Success in this course comes from consistent effort, completing work on time, and asking for help early. My goal is to support you in developing your calculus skills and applying them to business and related contexts while keeping course expectations clear and consistent.

## Instructor Information

**Name:** Mary Ann Barber

**Class Meets:** Matt 311; Tuesdays and Thursdays 2:20 PM – 3:40 PM

**Office Location:** GAB 459

**Drop-In Office Hours:** Tuesdays and Thursdays 11:15 AM – 1:00 PM

Office hours are an opportunity to ask questions, review course concepts, discuss assignments, or prepare for exams. If you're unable to attend during the scheduled times, please contact me to arrange an appointment.

### How to Contact Me

Please reach out whenever you have questions or concerns.

- **Canvas Inbox (Preferred)**: Fastest response.
- **UNT Email**: Include "MATH 1190.011" in the subject line and use your official UNT email account.

I usually respond within **one business day**. If you don't hear back, please send a follow-up message. Please remember to keep all communication respectful and professional, following UNT's General Online Communication Tips.

## Course Overview

Business Calculus introduces differential and integral calculus with an emphasis on applications in business, economics, and the social sciences. The course develops calculus skills and emphasizes applying calculus concepts to solve problems in these areas.

### Catalog Course Description

3 hours. Differential and integral calculus with emphasis on applications to business.

Note: This course is not preparation for calculus for science, engineering, or business programs.

### Course Prerequisites and Other Restrictions

Prerequisite: Two years of high school algebra and consent of department or MATH 1100 or MATH 1180 with a grade of C or better.

### Course Structure

This is a 15-week, face-to-face course that meets on campus Tuesdays and Thursdays. The course will cover four instructional modules. There will be three midterm exams and a comprehensive final exam.

### Course Objectives

1. Apply calculus to solve problems in business, economics, and the social sciences.
2. Apply appropriate differentiation techniques to obtain derivatives of various functions, including logarithmic and exponential functions.
3. Solve optimization problems with an emphasis on business and social science applications.
4. Determine appropriate technique(s) of integration.
5. Integrate functions using the method of integration by parts or substitution, as appropriate.
6. Solve business, economics, and social science application problems using integration techniques.

In this course, you will be evaluated for meeting the following three Core Curriculum requirements: Empirical and Quantitative Skills, Critical Thinking, and Communication. These skills are embedded throughout the course and their assessment will use distinct criteria from course grades.

## Required Course Materials

### Knewton Alta (Required)

- Knewton Alta access is required for homework and other learning activities.
- You may purchase access directly through Knewton Alta or from the UNT Barnes & Noble.
- If you previously purchased Knewton Alta access for MATH 1180 or MATH 1190 and your access is still active, you do not need to purchase access again.
- Knewton Alta may provide up to 14 days of temporary access. Be sure to purchase full access before the temporary access period expires.
- See **Getting Started with Knewton Alta** in the Start Here module for purchase and access information.

**No textbook is required for this course.** Optional textbook resources are available in the Canvas modules for students who would like additional explanations or practice.

### Fillable Student Notes

- Fillable Student Notes are available in Canvas. Print and bring them with you to class.
- Keep paper and pencil available for notes, practice, and exam preparation.

### Calculator

A physical calculator is required for exams. Acceptable calculators include TI-36X Pro, TI-84,TI-83, TI-30XIIS, or equivalent. An online TI-84 emulator is available for homework.

Calculators with computer algebra systems (CAS) capabilities, internet access, or communication features are not permitted on exams.

## Technology Requirements & Skills

The course has digital components. To fully participate in this class, you will need reliable internet access and the ability to access course content.

- A computer with reliable internet access
- Access to Canvas
- A supported web browser
- The ability to navigate Canvas and access course materials, assignments, and grades
- The ability to access and complete Knewton Alta assignments through Canvas
- The ability to download and open course materials
- The ability to use your calculator as needed for coursework

**Note:** A smartphone is not sufficient for completing coursework.

Check Canvas Technical Requirements to confirm device compatibility.

## Course Evaluation & Grading

### Evaluation

Your grade is based on the following components:

- Homework (Knewton and other assignments) – 30%
- Midterm Exams (average of all) – 50%
- Final Exam – 20%

Grades are posted in Canvas throughout the course.

### Grading Scale

- A: 90 – 100%
- B: 80 – 89%
- C: 70 – 79%
- D: 60 – 69%
- F: Below 60%

### Grading Policy

Grades are based on individual performance on course assignments and exams. This course is not graded on a curve.

Students are encouraged to collaborate appropriately while completing their own graded work.

# Course Components

## Homework: Learn by Practicing

Homework provides opportunities to practice new skills and prepare for exams. Most homework is completed through Knewton Alta, although some assignments may be completed directly in Canvas.

- Homework is worth 30% of your overall course grade.
- Each homework assignment is equally weighted.
- Homework assignments are due online by 11:59 PM on the posted due date.
- Late homework is not accepted.
- Two lowest homework grades will be dropped at the end of the term.
- Keep a dedicated notebook for your homework and show your work. Your homework should become part of your review materials when preparing for exams.
- Successful completion of homework is not, by itself, sufficient preparation for exams. You should be able to work problems independently without aids when taking exams.

## Getting the Most from Homework

Knewton Alta is adaptive and mastery-based, so there is no limit on the number of attempts you may make on homework exercises before the assignment due date. You can continue working on an assignment until you achieve 100% or the due date is reached.

Preparing by reviewing your class notes before beginning an assignment can help you work more efficiently.

See Knewton's Student Best Practices for additional suggestions.

## Exams

This class has three midterm exams and one comprehensive final exam.

Exams are administered during the scheduled class period. Dates are listed below and in the tentative course schedule.

**Midterm Exam 1**: *Thursday, 9/17*

**Midterm Exam 2**: *Thursday, 10/22*

**Midterm Exam 3**: *Thursday, 11/19*

**Final Exam** – Comprehensive (See the Final Exam Schedule for date and time.)

## Changes to Syllabus

Updates to the syllabus or schedule will be announced in class and posted on Canvas.

## Course Schedule

Assignments are generally due by 11:59 PM on the day following the class meeting in which the material was taught. Specific due dates are on Canvas. Plan ahead and avoid waiting until the last minute.

To prepare for each class and strengthen your understanding of the material:

- Review completed class notes from the previous class.
- Complete the **End-of-Section Exercises** in your Fillable Student Notes. Answers are provided for these exercises so you can check your work.
- Complete assigned Knewton Alta homework and other assignments.
- Review worked examples and practice additional problems as needed.
- Bring your calculator and any required materials to class.

### Tentative Weekly Calendar

The course schedule provides a tentative outline of topics for each class meeting. Assignment due dates and any schedule changes will be announced in class and posted in Canvas.

#### Week 1

Tuesday 8/18/2026:

- Course Introduction, Knewton
- 1.0: Rational Inequalities: Sign charts and factoring,

Thursday 8/20/2026

- 1.1: Idea of a Limit and Limit Rules
- 1.2: Limit Rules

#### Week 2

Tuesday 8/25/2026

- 1.3: Continuity

Thursday 8/27/2026

- 1.4: Limits at Infinity and Infinite limits

#### Week 3

Tuesday 9/1/2026

- 1.5: Average Rate of Change and Tangent Lines by Graphing

Thursday 9/3/2026

- 1.5: Average Rate of Change and Tangent Lines by Graphing cont.,
- 1.6: Definition of the Derivative

## Week 4

Tuesday 9/8/2026

- 1.6: Definition of the derivative cont.,
- 2.1: Constant, Power, Sum & Difference Rules

Thursday 9/10/2026

- 2.1: Constant, Power, Sum and Difference Rules cont.

## Week 5

Tuesday 9/15/2026

- Review

Thursday 9/17/2026

- Exam 1

## Week 6

Tuesday 9/22/2026

- 2.2: Product and Quotient Rules

Thursday 9/24/2026

- 2.3: Chain Rule

## Week 7

Tuesday 9/29/2026

- 2.4: Derivatives of Exponential and Logarithmic Functions
- 3.1: Marginal Applications to Business

Thursday 10/1/2026

- 3.2: Elasticity of Demand

## Week 8

Tuesday 10/6/2026

- 3.3: First Derivative Test and Graphing

Thursday 10/8/2026

- 3.4: The Second Derivative

## Week 9

Tuesday 10/13/2026

- 3.5: Absolute Extrema

Thursday 10/15/2026

- 3.6: Optimization

## Week 10

Tuesday 10/20/2026

- Review

Thursday 10/22/2026

- Exam 2

## Week 11

Tuesday 10/27/2026

- 4.1: Antiderivatives

Thursday 10/29/2026

- 4.2: Integration by Substitution
- 4.3: The Area Question

## Week 12

Tuesday 11/3/2026

- 4.3: The Area Question cont.
- 4.4: Definite Integrals and Rules for Definite Integrals

Thursday 11/5/2026

- 4.4: Definite Integrals and Rules for Definite Integrals cont.
- 4.5: Fundamental Theorem of Calculus

## Week 13

Tuesday 11/10/2026

- 4.5: Fundamental Theorem of Calculus cont.
- 4.6: Area between Curves; Gini index

Thursday 11/12/2026

- 4.6: Area between Curves; Gini index cont.,
- 4.7: Applications of Integration

## Week 14

Tuesday 11/17/2026

- Review

Thursday 11/19/2026

- Exam 3

No Classes from November 23rd-29$^{th}$ due to Thanksgiving Break

## Week 15

Tuesday 12/1/2026

- 4.7: Applications of Integration cont.

Thursday 12/3/2026

- Review

### Final Exam

Tuesday December 8, 3:30 pm – 5:30 pm.

- The final is comprehensive and worth at least 20% of your overall grade.

## Math 1190 Course Policies

### Academic Integrity

Academic honesty is expected in this course. Cheating, plagiarism, unauthorized use of AI, or other academic misconduct may result in penalties consistent with university policy.

Possible consequences include a zero on that assignment, an F in the course for serious violations, and referral to the Office of Academic Integrity in accordance with UNT Policy 06.003.

Success in this course requires honest effort, personal responsibility, and appropriate use of course resources.

### AI Policy

AI tools may be used only when explicitly authorized in the assignment instructions.

### Attendance and Participation

Regular attendance and active participation are important to your success in this course. Because each class builds on previous material, students are expected to attend class, arrive on time, and come prepared to participate.

This includes:

- Attend class regularly and remain for the entire class period.
- Bring your calculator, Fillable Student Notes, and any required materials.
- Participate in class activities and discussions.
- Complete assignments on time and stay current with course deadlines.

Class meetings provide the primary instruction for this course. Office hours and Canvas Inbox are best used for specific questions after attending class, reviewing your notes, and attempting the assigned work.

Students are encouraged to plan ahead and complete work early whenever possible.

See UNT's Student Attendance and Authorized Absences Policy for excused absences.

If you stop attending the course, you must still formally withdraw. Simply stopping attendance does not withdraw you from the course and may result in a failing grade.

## Examination Policy

Exams are completed during the scheduled class period. Students should arrive on time and bring a pencil, an approved calculator, and their UNT ID.

- Missed exams: A missed exam will receive a grade of zero.
- Excused absences: If you miss an exam due to a university-approved excuse under UNT's Student Attendance and Authorized Absences Policy, contact me through the Canvas Inbox within two business days of the missed exam to provide documentation and discuss arrangements.
- Academic dishonesty: A zero received for academic dishonesty will not be replaced by the final exam grade.
- Exam grades: If your final exam grade is higher than a midterm exam grade, the final exam grade may replace that midterm exam grade.
- Questions about grades: Students are welcome to ask questions about their grades for clarification. Final grade determinations remain with the instructor.

## Early Exam Requests

If you have a conflict with a scheduled exam, contact me through Canvas Inbox **at least one week in advance** to request an early exam. Approval is based on course scheduling and the circumstances of the request.

## Unauthorized Aids During Examinations and Assessments

Students may use only those materials and resources that are expressly authorized by the instructor for a particular examination or assessment. Touching, holding, or accessing any unauthorized aid during the examination period constitutes a violation of the Student Code of Conduct, regardless of whether the aid is used.

Any item that may be considered an unauthorized aid must be kept out of view and in a closed container (e.g. zipped backpack, buttoned purse, etc.) during the entirety of the examination or assessment.

Unless specifically authorized in writing by the instructor, prohibited aids include, but are not limited to:

- Mobile phones and smartphones
- Smartwatches and fitness trackers with communication, recording, or internet capabilities
- Tablets, laptops, and other computing devices
- Earbuds, headphones, and other audio devices
- Smart glasses, cameras, recording devices, and wearable technology
- Artificial intelligence (AI) tools, chatbots, and other generative AI technologies
- Notes, textbooks, study guides, formula sheets, or reference materials
- Any other device, material, or resource not expressly permitted by the instructor

Students are responsible for clarifying any questions about permitted materials before the examination begins.

### Late Work Policy

Meeting assignment deadlines is an important part of success in this course.

- Assignments are due by the posted deadline.
- Late work is not accepted.
- Two of your lowest Knewton Alta homework grades will be dropped at the end of the term.
- There are no late or make-up exams except as provided under the Examination Policy.

## Resources for Success

Many students improve through steady practice and early use of support resources. 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.

## Student Support Services & Assistance

### Academic Support and 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 and other UNT technology issues.

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

**IT Help Desk**: IT Student Help Desk (https://its.unt.edu/support/)

**Email:** helpdesk@unt.edu

**Phone**: 940-565-2324

**In Person**: Sage Hall, Room 330

**Canvas Technical Requirements**: Canvas Technical Requirements (https://digitalstrategy.unt.edu/clear)

Additional Canvas Support: Canvas Technical Help (https://digitalstrategy.unt.edu/clear/approved_and_supported_technologies/canvas.html )

# Welcome to UNT!

As members of the UNT community, we have all made a commitment 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.

Every student in this course can improve through consistent effort and academic honesty. Academic Integrity Policy violations will not help you succeed. Read and follow this important set of guidelines for your academic success.

## ADA Accommodation Statement

UNT makes reasonable academic accommodations for students with disabilities. Students seeking accommodations must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the ODA will provide the 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 accommodations should be provided as early as possible in the semester to avoid delays 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.

## 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 student's Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward email to 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 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 the last weeks of the term 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 – 2026 Fall

See Registration Guide.

**August 17:** Classes begin.

**August 21:** Last day to Add a Class or Swap Sections.

**August 28:** Census – Official Enrollment Determined. Last day to drop a course section to no longer appear on the official transcript. (*Dropping courses may impact financial aid and degree completion. See advisors.*)

**August 29:** Beginning this date, students can drop a course with a grade of W. For information on how to drop a class, see Registration Guide, Dropping. The course appears on the transcript with a Grade of W and tuition and fees remain. (*Dropping courses may impact financial aid and degree completion. See advisors.*)

**November 6:** The last day to drop a course or all courses with a grade of W.

**November 7:** 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 the work cannot be completed on schedule; and
3. arranges with the instructor to complete the work in no more than one academic year.

**December 3:** Last Regular Class Meeting.

**December 7 – 11**: Final Exam