MATH 1190.001: Business Calculus Syllabus

Fall 2021 – MWF 12- 12:50 PM, SAGE 356

Instructor Contact

Name of Instructor:	Lidia V. Dattalo
Campus/Office Location:	GAB 410
Office Hours:	M: 1-2:30 pm | W: 1-2:00 pm | Tuesdays and Thursdays 5:15-6:15 pm. And by appointment.
Telephone Number:	N/A
E-mail Address:	Lidia.dattalo@unt.edu *When sending an email, include course name, number and section, along with your full name in the subject header. Email without this information may not get opened. A response will be sent in a timely manner, but may occasionally take up to two (2) business days.*

Course Description

Differential and integral calculus with emphasis on applications to business. Prerequisite(s):
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 course takes place in-person.

Course Learning Objectives

Upon successful completion of this course, students will:
1. Apply calculus to solve business, economics, and social sciences problems.

2. Apply appropriate differentiation techniques to obtain derivatives of various
functions, including logarithmic and exponential functions.

3. Solve optimization problems with emphasis on business and social sciences
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 sciences applications problems using integration techniques.

Communication Expectations

When sending an email, include course name, number and section, along with your full name in the subject header. Email without this information may not get opened. A response will be sent in a timely manner, but may occasionally take up to two (2) business days

Required Texts

Homework assignments will require accessing Knewton or Canvas quizzes through your UNT Canvas account. Log in to Canvas at https://unt.instructure.com, read through "Getting started with Knewton". Additional resources are listed in Canvas. You will have to purchase access to Knewton or continue access if you have used it for Math 1180 or 1190 and purchased the 2-year access. This can be done through the Barnes and Noble link or other sellers. You can get two weeks of access for free for up to two weeks. For more information about your homework, please read the Homework section. The homework assignments account for 15% of your grade.

No textbook is required.

Technical Requirements & Skills

Minimum Technology Requirements
- A working computer with speakers that can reliably access the internet and access Canvas (minimum requirements) and Knewton

- A calculator (see Calculator Policy)

Computer Skills & Digital Literacy
Students are expected to be proficient at:

- Using Canvas
- Using Knewton (see Getting Started with Knewton in Canvas)
- Using email
- Using your calculator

Calculator Policy:
Many calculators will be sufficient for the exams on this class. Among good options are the TI-30XIIS, TI-83 or TI-84 (or similar Casio, other manufacturer's calculators). Examples of calculators not allowed: TI-Nspires, 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.

Knewton is Required

The homework and some course content will be delivered in Knewton, which must be accessed through via Canvas.

Course Evaluation

# of Graded Course Elements	Graded Course Elements	Percentage or Point Values
1	Homework- online with Knewton/Canvas	20%
2	Exam 1	20 %
3	Exam 2	20%
4	Exam 3	20 %
5	Final Exam – Wednesday, Dec. 8, 10:30 am – 12:30 pm https://registrar.unt.edu/exams/final-exam-schedule/	20%

Grade Assignment:

Grade Scale: 90 – 100% = A; 80 – 89% = B; 70 – 79% = C; 60 – 69% = D; Below 60% = F

Note: If necessary, the final exam grade will replace the lowest exam grade.

A grade of C or better is required for this course to serve as prerequisite for any math course.

Policies/information directly affecting grades/grading

Homework:

The online homework is worth 20% of your overall course grade. Each assignment is equally weighted. Most homework will use an online software program called Knewton, though some will be directly in canvas.

What is Knewton? Knewton is a mastery-based adaptive software and is designed to judge your ability to complete your assignments. You will be able to proceed through Knewton much more quickly if you study and review your notes before starting the assignments. For best results, read through "Getting Started with Knewton" located in Canvas before your first assignment.

Why do Homework? A purpose of homework is to provide you with sufficient opportunities to learn and practice the new content you are learning. Knewton is adaptive and mastery based, which means that the software will provide each student with the sufficient number of questions to judge whether each topics learning objectives have been mastered. This means a

student who has prepared well before the assignment may have very short assignments, while a less well-prepared student may take many more questions on each assignment. Again, the more you prepare before starting to attempt the exercises, the less work you will have. For more tips on how to get the most out of the homework assignments, read through "Getting Started with Knewton"

Get the Most out of Homework

1. You should have a dedicated notebook for your math homework. Carefully write out your work, especially noting the questions with which you struggled. This should form a substantial part of your review material prior to the exams.

2. Homework is one piece of your learning process in this course, but successful completion of the homework assignments is not sufficient preparation for exams. You must be able to work the exercises on your own, without any aids on exams.

Where is Knewton?

You access your Knewton powered homework in one of two ways through Canvas, they are:

1. At the Syllabus portal. Every assignment for your course is accessible through the Syllabus portal. This portal is very helpful because it lists all assignments in due date order; or

2. At the content module. Select the Modules tab along the left-hand navigation of Canvas. From the Modules select Module 1. The Knewton assignments have a paper and pencil icon to their left.

When are Knewton Homework Assignments due?

Assignment due dates are listed on the calendar and on the syllabus link in Canvas. Knewton assignments are always due at 12 PM. To successfully complete the assignments, you must carefully manage your time. I recommend that you plan to complete them well ahead of the due date. Late homework will not be accepted. At the end of the term, two (2) lowest grades will be dropped from the calculation of the homework average. In Canvas, the two dropped grades will not be correctly calculated until the very end of the semester.

Midterm Exams: Three in-class exams are planned for this semester. Keep a record of all your scores. Be sure to review your exam upon receiving it. Check your written exam grade with the grade posted online to ensure that they are the same. The midterm exams account for a total of 60% of the overall course grade. Tentative dates are listed on the attached calendar. The final exam is comprehensive.

Final Exam: The final exam is on Wednesday, December 8, 2021 from 10:30 am – 12:30 pm in SAGE 356. The final exam is comprehensive and is 20% of the course grade.

Drop/Withdrawal Policy: If the student is unable to complete this course, it is his/her responsibility to formally withdraw from the course. Until 9/4, students may drop a course from their student portal on my.unt.edu (and depending on the date, may be eligible for at least a partial refund). From 9/5 to 11/12, students may drop a course by following the instructions at https://registrar.unt.edu/registration/dropping-class. If the student does not properly withdraw from the course but stops attending, s/he will receive a performance grade, usually an F.

If you are considering dropping, it is strongly recommended that you discuss the matter with me as soon as possible.

Changes to the University's policy may affect this. Please contact the Registrar for further questions.

Incomplete: Beginning 11/13, a student that qualifies may request a grade of "I", incomplete. An "I" is a non-punitive grade given only if ALL three of the following criteria are satisfied. They are:

- The student is passing the course;

- The student has a justifiable (and verifiable) reason why the work cannot be completed as scheduled; and

- The student arranges with the instructor to complete the work within one academic year.

Make-up Exam Policy: An exam may be taken prior to the scheduled date. I request a week's notice for this accommodation via email. In the event of a schedule conflict with a university function, dental/physician's appointment, wedding, formal, or whatever, the student must take the test early. If a student does not take a scheduled exam, a zero will be recorded for that exam and a notice may be sent through the registrar's office.
There are several midterm exams. If your final exam score is higher than one of your midterm exams scores, then that in-class exam grade will be replaced with final exam grade. If you miss an in-class exam, a zero will be recorded for that exam grade and your final exam score will replace that one zero. If you receive a zero for academic dishonesty on an exam, the final exam score will NOT replace that zero.

Exam Etiquette and requirements:

In person exams etiquette:
- Place all papers, textbook, notes, etc. in a backpack or a book bag and close it securely.
- Turn off all electronic devices (unless medically necessary), this includes cell phones, pagers, etc.
- Handling of ANY such electronic devices during an exam will be construed as cheating (receiving unauthorized aid) and may result in a zero for that exam.
- Do not wear HATS or CAPS during exams.
- Do not share any materials during an exam. This includes, but is not limited to pencils, erasers, calculators, etc.

- **Only** approved calculators during an exam. You may have both a scientific and a graphing calculator. It is your responsibility to know how to work the calculator(s) you bring to a test.
- Have only the exam, pencil, eraser and calculator out during an exam. Work out space is provided on the actual exam and you can get additional paper from the instructor. You will not be permitted to have any of your own scratch paper during an exam.

Other ways to get help for this course:

What tutoring/office hours are for: Office hours provide a dedicated time for students to get one-on-one, or small group, time with an instructor. Come get help!!

Math Lab (SAGE 130): See https://learningcenter.unt.edu/math-lab

The learning center offers several tutoring options: Drop-In Tutoring, One-on-One Tutoring, Group Tutoring and Online Tutoring. See http://learningcenter.unt.edu/tutoring.

Attendance Policy
Class attendance is mandatory. Students are responsible for all information given in class, regardless of his/her attendance.

Attendance Syllabus Statement:
Students are expected to attend class meetings regularly and to abide by the attendance policy established for the course. It is important that you communicate with the professor and the instructional team prior to being absent, so you, the professor, and the instructional team can discuss and mitigate the impact of the absence on your attainment of course learning goals. Please inform the professor and instructional team if you are unable to attend class meetings because you are ill, in mindfulness of the health and safety of everyone in our community.

If you are experiencing any symptoms of COVID-19 please seek medical attention from the Student Health and Wellness Center (940-565-2333 or askSHWC@unt.edu) or your health care provider PRIOR to coming to campus. UNT also requires you to contact the UNT COVID Team at COVID@unt.edu for guidance on actions to take due to symptoms, pending or positive test results, or potential exposure.

Attendance Syllabus Statement:

Remote instruction may be necessary if community health conditions change or you need to self-isolate or quarantine due to COVID-19. Students will need access to a computer capable of running Zoom, a webcam, and microphone to participate in fully remote portions of the class.

Additional required classroom materials for remote learning include: Lockdown Browser installed on a computer you are running. Information on how to be successful in a remote learning environment can be found at https://online.unt.edu/learn.

Statement about class video recordings:

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.

Statement about masks:

UNT encourages everyone to wear a face covering when indoors, regardless of vaccination status, to protect yourself and others from COVID infection, as recommended by current CDC guidelines. Face covering guidelines could change based on community health conditions.

MATH 1190-001 Course Calendar – Fall 2021

NOTE: The instructor reserves the right to change this calendar as necessary throughout the semester. It is the student's responsibility to be aware of any changes announced in class even if not present. See pages 9-12 for calendar.

WEEK	MONDAY	WEDNESDAY	FRIDAY
1	**8/23** **1, #2 Due 9/10 at 12pm** Introduction: Rational Inequalities Sign Charts/Factoring-1 1.1 Limits from a Graph / Table-2	**8/25** 1.1 Limits from a Graph / Table-2 (Cont'.d) 1.2 Properties of Limits-2	**8/27** **#3, #4 Due 9/10 at 12pm** 1.2 Limits Analytically for Continuous/Piecewise Functions-3 1.2 Limits Analytically for Functions with Removable Discontinuities-4
2	**8/30** **#5, #6 Due 9/10 at 12pm** 1.3 Definition of Continuity -5 Cont. of Piecewise Functs.-6	**9/1** **#7, #8 Due 9/10 at 12pm** 1.3 Intermed. Value Th.-7 1.4 Infinite Limits-8	**9/3** **#9, #10 Due 9/10 at 12pm** 1.4 Limits at Infinity-9 1.5 Secant Lines and Average Rates of Change-10
3	**9/6** **LABOR DAY**	**9/8** **#11, #12 Due 9/15 at 12pm** 1.5 Tangent Lines and Instant. Velocities-11 1.6 Definition of the Derivative-12	**9/10** **#13 Due 9/17 at 12pm** 1.7 Derivative Rules The Power Rule-13
4	**9/13** **#15 Due 9/20 at 12pm** 1.7 Deriv. Rules - Sum and Difference-15	**9/15** **#14 Due 9/22** 1.7 Use of Power Rule to Explore Tangent Lines-14	**9/17** **#16 Due 9/24 at 12pm** 1.8 Derivative Rules of Exponential Functions-16
5	**9/20** **#17 Due 9/24 at 12pm** 1.8 Deriv. Rules of Natural Log Functions-17	**9/22** Exam 1 Review	**9/24** **EXAM 1**

WEEK	MONDAY	WEDNESDAY	FRIDAY
6	**9/27 #19, #20 & #21 Due 10/4 at 12pm** 2.1 Product and Quotient Rules The Product Rule-19 The Quotient Rule-20 Use of these rules with Exponential Functions-21	**9/29 #22 Due 10/6 at 12pm** 2.2 Chain Rule-22	**10/1 #23 Due 10/8 at 12pm** 2.3 Marginal Applications to Business-23
7	**10/4** 2.3 Marginal Applications to Business – Cont'd.	**10/6 #25, #26 Due 10/13 at 12pm** 2.4 Relative Rate of Change-25 Elasticity of Demand-26	**10/8 #27 Due 10/15 at 12pm** 2.5 First Derivative Test-27
8	**10/11 #28 Due 10/18 at 12pm** 2.5 The Graph of the Derivative Function-28	**10/13 #29 Due 10/20 at 12pm** 2.6 Concavity and the Second Derivative Test-29	**10/15 #30 Due 10/22 at 12pm** 2.7 Extreme Value Theorem and Absolute Extrema-30
9	**10/18 #31 Due 10/25 at 12pm** 2.8 Applied Optimization Problems-31	**10/20 #32 Due 10/25 at 12pm** 2.8 Optimization-32	**10/22** Exam 2 Review
10	**10/25** **EXAM 2**		

WEEK	MONDAY	WEDNESDAY	FRIDAY

10		10/27 #34 Due 11/3 at 12pm
		
		3.1 Antiderivatives and the
		
		    Integral-34
			10/29 #35, #36 Due 11/5 at 12pm
			
			3.2 Initial Value Problem-35
			
			    Subst. of Indef. Integrals-36

11	11/1 #37 Due 11/8 at 12pm
	
	3.3 The Area Question – Left
	
	    & Right Riemann Sums-37
		11/3 #38 Due 11/10 at 12pm
		
		3.3 Defining Definite Integral-38
			11/5 #40 Due 11/12 at 12pm
			
			3.4 Definite Integrals and
			
			    Prop. of Def. Integrals-40

12	11/8 #41 Due 11/15 at 12pm
	
	3.4 Evaluating Definite Integrals
	
	    with the Fundamental
	
	    Theorem of Calculus-41
		11/10
		
		3.5 Fundamental Theorem of
		
		    Calculus-Cont'd
			11/12 #42, #43 Due 11/19 at 12pm
			
			3.5 Substitution of Definite
			
			    Integrals-42
			
			    Avg. Value of a Function-43

13	11/15
	
	3.6 Area Between Two Curves-
	
	    Gini Index
		11/17 #44, #45, #46 Due 11/24 at 12pm
		
		3.6 Finding the Area of a Region
		
		    Bounded by Two Curves and
		
		    Comp. Regions-44, 45, 46.
			11/19 #48 Due 11/29 at 12pm
			
			3.7 Applications of Integration
			
			    Income and Streams-48

14	11/22 #49 Due 11/29 at 12pm 3.7 Cons./Prod. Surplus-49	11/24 Exam 3 Review	11/26 **Thanksgiving**
15	11/29 **EXAM 3**	12/1 Final Exam Review	12/3 Reading Day

16	12/6 – FINALS WEEK	12/8 FINAL EXAM	12/10

Course and University Policies and other important information:

Academic Integrity Policy

Academic Integrity Standards and Consequences. 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. Cheating on final exams, on in-class tests, or on quizzes is a serious breach of academic standards and will be punished severely and generally result in a student failing the course. At a minimum a 0 will be recorded for the grade and it will not be able to be improved. Students who violate this policy will be reported to the appropriate university authorities.

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/).

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 Blackboard for

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) 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).

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.

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 940-565-2648.

Getting Help

Technical Assistance

Here at UNT, we have a Student Help Desk that you can contact for help with Canvas or other technology issues.

UIT Help Desk (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

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

Student Support Services
- Registrar (https://registrar.unt.edu/registration)
- Financial Aid (https://financialaid.unt.edu/)
- Student Legal Services (https://studentaffairs.unt.edu/student-legal-services)
- Career Center (https://studentaffairs.unt.edu/career-center)
- Multicultural Center (https://edo.unt.edu/multicultural-center)
- Counseling and Testing Services (https://studentaffairs.unt.edu/counseling-and-testing-services)
- Student Affairs Care Team (https://studentaffairs.unt.edu/care)
- Student Health and Wellness Center (https://studentaffairs.unt.edu/student-health-and-wellness-center)
- Pride Alliance (https://edo.unt.edu/pridealliance)

Academic Support Services
- Academic Resource Center (https://clear.unt.edu/canvas/student-resources)
- Academic Success Center (https://success.unt.edu/asc)
- UNT Libraries (https://library.unt.edu/)
- Writing Lab (http://writingcenter.unt.edu/)
- MathLab (https://math.unt.edu/mathlab)

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.

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 – Fall 2020

August 23, Monday
Classes begin.

August 27, Friday
Last day to add/swap a class. Cannot swap to a higher-level class, only down.

September 5, Sunday
Beginning this date a student may drop a course with a grade of W by completing the Request to Drop Class form and submitting it to the Registrar's Office.

September 6, Monday
Labor Day – No Classes, University Closed.

November 12, Monday
Last day to drop a course.

November 13, Monday
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 in no more than one academic year.

November 25, Thursday – November 28, Sunday
Thanksgiving Break – University Closed.

December 3, Friday
Reading Day – No Classes.

December 4, Saturday – December 10, Friday
Final examinations. Terms ends.