

Math 1190: Business Calculus

Internet/Online course Fall 2020

Instructor Name: Isaac Bancroft

Communication: You can send me an email at any time to the below address, and typically expect a response within 48 hours.

Email: isaacbancroft@my.unt.edu

Zoom Office Hours: If you would like to meet for any reason, send me an email

Course Structure: This course will be a completely online course. All materials and assignments will be available from Canvas.

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.

Class Materials for Remote Instruction

Students will need access to a webcam and a computer capable of using Respondus (i.e. not a Chromebook) to participate in portions of the class. Information on how to be successful in a remote learning environment can be found at <https://online.unt.edu/learn>.

- **Online Materials:** This course has no physical textbook. Homework assignments will require accessing Knewton through your UNT Canvas account. Be sure to read through "How Knewton works" before starting your homework. 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.

Calculator Policy: TI 83, TI 83 Plus, TI 84, TI 84 Plus or equivalent, their use will be supported in class. Examples of calculators not allowed: **TI-Nspires**, **TI 92s** or any other utility with alphanumeric/CAS capabilities **ARE NOT** permitted, nor are any devices which are capable of connecting to other devices or the internet. A calculator may not be shared during an exam.

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.

Information about grades:

Evaluation component:	Description	Overall Percent of course grade
Homework	Completed online with Knewton/canvas quizzes.	20
Engagement	Includes discussions, quizzes, and other activities	10
Midterm exams	Three midterm exams will be given. These are in Canvas, require LockDown Browser and Respondus monitor, and are worth 15% each	45
Final exam	Required, comprehensive and on Canvas as other exams are. Must be taken on Monday, December 7th	25

Grade assignment:

A: [90%,); B: [80%, 90%); C: [70%, 80%); D: [60%, 70%); F: [0%, 60%).

Your grade will be based on the criteria listed above, with no other/extra credit. A grade of C or better is required

for this course to serve as prerequisite for Math 1190.

Policies and information directly affecting grades/grading**Midterm Exams:**

There will be one exam covering each of the Three Modules in the course. Each exam is worth 15% of your overall grade. The exams will consist of about 15 - 25 multiple-choice questions and about 3-5 workout problems. Module exams are specific to the content of that Unit. The exams are located in the Module they cover. They are administered online with LockDown Browser and Respondus Monitor with a webcam. Each exam will have a 120 minute time limit. Each exam becomes available at 12:01 AM (a minute after midnight Central time) and is available until 11:59 PM (a minute before midnight Central time) on the day of the exam. Be sure to plan your time so that the exam will be completed before the time it is due. That is, if you start the exam at 11:45PM, then you will only have 14 minutes to complete the exam.

See the calendar for due dates.

You will not be allowed to include a formula sheet when taking your exams. All you can use are writing implements (e.g. pencil), blank sheets of scratch paper and an approved calculator.

Final Exam:

The final exam is on Monday, December 7th. The final exam is comprehensive and is worth 25% of the overall course grade. The format of the final exam will be the same as the format of the module exams and will require the use of LockDown Browser and Respondus Monitor with a webcam.

Engagement:

This portion of your grade is determined by your completion of a variety of types of assignments. This will include the following:

- LockDown Browser and Respondus Monitor Quiz (worth 10 points - must be completed or you will not be able to take the exams) Due: Tuesday, August 25th
- Class introduction quiz (worth 10 points) Due: Tuesday, August 25th
- Introduce yourself discussion post (worth 10 points) Due: Thursday, August 27th
- Unit/Module discussion posts (worth 10 points each; 50 points total) Due: See calendar for exact dates.

The quizzes require reviewing information that you will need to know to successfully complete the course. The later discussions cover a variety of module discussion topics, while the first discussion gives you a chance to introduce yourself to your classmates.

Timeline for grading: For each written assignment (e.g. discussion posts, workout portion of the exams, etc.), I will endeavor to grade and post grades within three business days. When circumstances prevent me from meeting this goal, I will always get grades back to you within 1 week.

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 "How Knewton Works," 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 "How Knewton Works."

Get the Most out of Homework

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.

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
3. 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 11:59 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.

Drop/Withdrawal Policy

If the student is unable to complete this course, it is his/her responsibility to formally withdraw from the course. Prior to 9/6, 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 9/6 to 11/2, students may drop a course by following the instructions at <https://registrar.unt.edu/registration/dropping-class>. The last date to withdraw from all of your classes is 11/20. 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, the Grade of: Beginning 11/9, 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:

- 1) The student is passing the course;
- 2) The student has a justifiable (and verifiable) reason why the work cannot be completed as scheduled; and
- 3) 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 exam 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.

Attendance Policy: This online course has no physical attendance requirement. In lieu of physical attendance, your regular and consistent virtual attendance is expected. That means you should access

Canvas several every day of the week. You are responsible for all information in Canvas or sent to your UNT email account.

Options for more help

- My zoom office hours. Email me to arrange a time.
- **MathLab:** See <https://learningcenter.unt.edu/math-lab> for more information about UNT's MathLab.

Important dates:

Classes Begin	8/24
Labor Day (no classes; university closed)	9/7
Beginning this date a student may drop a course with a grade of W by completing the Request to Drop a Course form and submitting it to the Registrar's Office. See link for complete instructions Dropping a Class .	9/6
Last day for a student to drop a course. Grades of W are assigned.	11/2
Beginning this date, a student who qualifies may request an Incomplete, with a grade of I.	11/9
Last day to withdraw (drop all classes). Grades of W are assigned.	11/20
Thanksgiving Break (no classes, university closed)	11/26-11/27
Pre-Finals Days	12/2-12/3
Reading Day (no classes)	12/3
Final Exams	12/5-12/11

COVID-19 Impact on Participation

While attendance is expected as outlined above, it is important for all of us to be mindful of the health and safety of everyone in our community, especially given concerns about COVID-19. Please contact me if you are unable to complete class assignments because you are ill or due to a related issue regarding COVID-19. It is important that you communicate with me prior to due dates so I may make a decision about accommodating your request.

If you are experiencing any [symptoms of COVID-19](#)

(<https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>) 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 Hotline at 844-366-5892 or COVID@unt.edu for guidance on actions to take due to symptoms, pending or positive test results, or potential exposure.

Additional Course and University Policies

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. Generally, the student will receive a 0 on the assignment and may receive an F for the course. For more information, see: Dean of Students Academic Integrity. The LockDown Browser & Respondus Monitor system recognizes and flags behavior associated with academic dishonesty. Please be advised that your testing is recorded.

ADA Accommodation Statement. 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](#). You may also contact them by phone at 940.565.4323.

Online Etiquette: A good list of rules to follow online are including at <http://blogs.onlineeducation.touro.edu/15-rules-netiquette-online-discussion-boards/> In general, don't say things you would be uncomfortable saying to someone in person and be careful to work hard to communicate clearly. Online interaction makes some common discussions harder because of the need to be very explicit in your meaning due to the lack of other common social cues. Work to assume good intent on behalf of others and work to be clear in your communication and most other issues will take care of themselves.

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.

Technical Assistance

Part of working in the online environment involves dealing with the inconveniences and frustration that can arise when technology breaks down or does not perform as expected. Here at UNT we have a Student Help Desk that you can contact for help with Canvas or other technology issues.

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

Email: helpdesk@unt.edu

Phone: 940-565-2324

In Person: Sage Hall, Room 130

Walk-In Availability: 8am-9pm

Telephone Availability:

Sunday: noon-midnight

Monday-Thursday: 8am-midnight

Friday: 8am-8pm

Saturday: 9am-5pm

Laptop Checkout: 8am-7pm

Student Perceptions of Teaching (SPOT): 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 SPOT survey will be made available later this semester to provide you with an opportunity to evaluate how this course is taught. You will receive an email on from "UNT SPOT Course Evaluations via IASystem Notification"(no-reply@iasystem.org) with the survey link. Please look for the email in your UNT email inbox. Simply click on the link and complete your survey. Once you complete the survey you will receive a confirmation email that the survey has been submitted. For additional information, please visit the SPOT website at www.spot.unt.edu or email spot@unt.edu.

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 visit the [Electronic Code of Federal Regulations](#) website. 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](#) by telephone 940-565-2195 or email internationaladvising@unt.edu to get clarification before the one-week deadline.

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Sexual Assault Prevention

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. Visit [Title IX Student Information](#) for more resources.

Undocumented Students

Please see UNT'S [Resources for DACA Students](#) web page for more information.

Web Accessibility & Privacy

Please find the web accessibility and privacy statements for UNT, Canvas, and all CLEAR supported technologies below.

UNT

[Web Accessibility Policy](#)
[Privacy Statement](#)

Canvas/Instructure

[Accessibility Statement](#)
[Privacy Policy](#)

CLEAR Supported Technologies

See [CLEAR's Supported Technologies web page](#) for links to Accessibility Statements and Privacy Policies.

Copyright Notice

Materials used in connection with this course may be subject to copyright protection. Materials may include, but are not limited to: documents, slides, images, audio, and video. Materials in this course Web site are only for the use of students enrolled in this course, for purposes associated with this course, and may not be retained for longer than the class term. Unauthorized retention, duplication, distribution, or modification of copyrighted materials is strictly prohibited by law. For more information, visit the [UNT Policy Office](#) or [Copyright.gov](#).

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](#)
[Counseling and Testing Services](#)
[UNT Care Team](#)
[UNT Psychiatric 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](#)

[Financial Aid](#)

[Student Legal Services](#)

[Career Center](#)

[Multicultural Center](#)

[Counseling and Testing Services](#)

[Pride Alliance](#)

[UNT Food Pantry](#)

Academic Support Services

[Academic Resource Center](#)

[Academic Success Center](#)

[UNT Libraries](#)

[Writing Lab](#)

[Math Lab](#)

Course Calendar:

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1:	08/24/20	08/25/20	08/26/20	08/27/20	08/28/20
	Material to cover: Introduction to class: Completely review Start Here Module and Syllabus review. Intro video	Due in Canvas: Class introduction quiz, LockDown Browser and Respondus Monitor Quiz	Material to cover: 1.1 Idea of a limit Due in Canvas: *Introduce yourself Discussion posts	Due in Canvas: Introduce yourself Discussion posts	Material to cover: 1.2 Limit rules Knewton Due: 1,2
Week 2:	08/31/20	09/01/20	09/02/20	09/03/20	09/04/20
	Material to cover: 1.3 Continuity Knewton Due: 3,4		Material to cover: 1.4 Limits at infinity Knewton Due: 5,6		Material to cover: 1.5 Average rate of change and tangent lines by graphing Knewton Due: 7
Week 3:	09/07/20	09/08/20	09/09/20	09/10/20	09/11/20
	Labor Day		Material to cover: 1.6 Definition of the derivative Knewton Due: 8,9		Material to cover: 1.7 Derivative rules, part 1: Constant, Power, Sum and difference Knewton Due: 10,11,12
Week 4:	09/14/20	09/15/20	09/16/20	09/17/20	09/18/20
	Material to cover: Review Knewton Due: 13,14,15		Material to cover: 1.8 Derivative rules, part 2: Exponential and logarithmic functions Knewton Due: 16		Material to cover: Review Knewton Due: 17 Due in Canvas: Unit 1 Discussion posts
Week 5:	09/21/20	09/22/20	09/23/20	09/24/20	09/25/20
	Material to cover: Review	Due in Canvas: 18. Unit 1 Wrapup	Due in Canvas: Exam 1		Material to cover: 2.1 Product and quotient rules
Week 6:	09/28/20	09/29/20	09/30/20	10/01/20	10/02/20

	Material to cover: 2.2 Chain rule Knewton Due: 19		Material to cover: Review Knewton Due: 20		Material to cover: 2.3 Marginal applications to business Knewton Due: 21
Week 7:	10/05/20	10/06/20	10/07/20	10/08/20	10/09/20
	Material to cover: 2.4 Elasticity of demand Knewton Due: 22		Material to cover: 2.5 First derivative test and graphing Knewton Due: 23,24		Material to cover: Review Knewton Due: 25,26
Week 8:	10/12/20	10/13/20	10/14/20	10/15/20	10/16/20
	Material to cover: 2.6 Using the second derivative Knewton Due: 27,28		Material to cover: 2.7 Absolute Extrema Knewton Due: 29		Material to cover: Review Knewton Due: 30
Week 9:	10/19/20	10/20/20	10/21/20	10/22/20	10/23/20
	Material to cover: 2.8 Optimization Knewton Due: 31	Due in Canvas: Unit 2 Discussion posts	Material to cover: Review Knewton Due: 32	Due in Canvas: 33. Unit 2 Wrapup	Due in Canvas: Exam 2
Week 10:	10/26/20	10/27/20	10/28/20	10/29/20	10/30/20
	Material to cover: 3.1 Antiderivatives		Material to cover: 3.2 Substitution Knewton Due: 34		Material to cover: 3.3 The area question Knewton Due: 35
Week 11:	11/02/20	11/03/20	11/04/20	11/05/20	11/06/20
	Material to cover: Review Knewton Due: 36		Material to cover: 3.4 Definite integrals and rules for definite integrals Knewton Due: 37,38		Material to cover: Review Knewton Due: 39
Week 12:	11/09/20	11/10/20	11/11/20	11/12/20	11/13/20
	Material to cover: 3.5 Fundamental theorem of calculus Knewton Due: 40		Material to cover: Review Knewton Due: 41		Material to cover: 3.6 Area between curves; Gini index Knewton Due: 42
Week 13:	11/16/20	11/17/20	11/18/20	11/19/20	11/20/20
	Material to cover: Review Knewton Due: 43		Material to cover: 3.7 Applications of integration Knewton Due: 44		Material to cover: Review Knewton Due: 45 Due in Canvas: 46. Gini index
Week 14:	11/23/20	11/24/20	11/25/20	11/26/20	11/27/20
	Material to cover: 3.8 Additional integration topics		Material to cover: Review Knewton Due: 47,48 Due in Canvas: Unit 3 Discussion posts	Thanksgiving	Thanksgiving
Week 15:	11/30/20	12/01/20	12/02/20	12/03/20	12/04/20
	Material to cover: Review	Due in Canvas: 49. Unit 3 Wrapup	Due in Canvas: Exam 3	Material to cover: Review	Due in Canvas: Reading Day
Week 16:	12/07/20	12/08/20	12/09/20	12/10/20	12/11/20

Final Exam is: Monday December 7th

