

MATH 1180.005 Syllabus

College Math for Business, Economics and Related Fields

MWF 11:15 am – 12:05 pm | Terrill Hall, room #120

Instructor Information

Name: Jake Williams

Office Location: GAB 462

Office Hours: TR 11:30 am – 1:30 pm, F 1:30 pm – 3:00 pm

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Communication Expectations: Send an email to the above email address. I highly recommend using [UNT's Webmail](#) service to do this. You must use your UNT email account, or I cannot respond at all due to FERPA and other privacy concerns. Your communication with me should be in line with [UNT's Online Communication Guidelines](#). If you email me and do not receive a reply within one (1) business day, please send a follow-up. A gentle nudge is always appreciated!

Note: One *business day* is Monday through Friday from 9 am to 5 pm.

Course Description

Topics from algebra (linear equations, quadratic equations, functions and graphs, inequalities), mathematics of finance (simple and compound interest, annuities), linear programming, matrices, systems of linear equations, applications to management, economics and business.

Course Structure

This is a 15-week, face-to-face course that will cover four units. There will be three midterm exams, plus a comprehensive final exam.

Course Prerequisites or Other Restrictions

Prerequisite(s): Two years of high school algebra and one year of geometry, and consent of department.

Students who feel they acquired solid algebra skills in high school are strongly encouraged to take the mathematics placement exam to see if they may begin in MATH 1190 instead. A grade C or better in MATH 1180 is required when MATH 1180 is a prerequisite for other mathematics courses.

Course Learning Objectives

- Students will demonstrate an ability to recognize and solve problems involving financial mathematics, including simple interest, compound interest and present and future value of annuities
- Students will demonstrate an ability to understand graphing of equations, operations with lines, solve and interpret solutions of systems of linear equations and linear inequalities, and interpret solutions of standard maximization problems.
- Students will demonstrate skill at using tools from algebra. Students will demonstrate an ability to manipulate, solve, graph, and work with several types of functions.

- Students will demonstrate skill at using tools from probability, including counting, using conditional probability and finding expected values.
- Students will demonstrate skill at using exponential rules, factoring, function composition, interpreting results from rational functions, and making and interpreting sign charts

In this course, you will be evaluated on three Core Curriculum requirements: Empirical and Quantitative Skills, Critical Thinking, and Communication. These skills are embedded throughout the course and the assessment of them will occur using distinct criteria from your grades.

ADA Policy

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 send your instructors a letter of accommodation via email, initiating a private discussion about your needs in the course. You can request accommodations at any time, but it is important to provide ODA notice to your instructor 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 instructor before accommodations can be provided 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. To find more information and 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>).

Materials

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 two-year access within the last two years. This can be done through the Barnes and Noble link or other sellers. You can get free access for up to two weeks. For more information about your homework, please read the Homework section under Course Evaluation.

No textbook is required.

Course Technology & Skills

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](#).

Minimum Technology Requirements and required skills

- A working computer with speakers and webcam that can reliably access the internet and access Canvas ([minimum requirements](#)) and view content videos on Canvas or YouTube
- A calculator (see Calculator Policy)
- Ability to download, install and run software
- Proficiency in using Canvas
- Proficiency in using Knewton (see Getting Started with Knewton in Canvas)
- Proficiency in using your calculator
- A laptop or mobile device (such as a tablet or smartphone) that is compatible with iClicker

Information on success in a digital learning environment can be found at <https://online.unt.edu/learn>.

How to Succeed in this Course

At the beginning of the semester:

- Read this syllabus in detail
- Familiarize yourself with the Canvas course
- Activate Knewton Alta by clicking on the first homework assignment

Before each class:

- Make sure you have the notes for our next class meeting printed out
- Review the unfilled notes the night before. Ask yourself:
 - What do I think I will get stuck on in class?
 - What question prompts do I not understand now?
 - Did these topics give me trouble before?
- Bring the notes to class to fill in
- Arrive at the classroom on time
- Have your notetaking setup ready just before class starts

During class:

- Log into iClicker and keep it ready for activities
 - This is the only purpose for which you may use an electronic device
- Mark things that you think are important or don't understand
- Add comments to clarify possible misunderstandings
- Write questions that you would like to ask
- Stay until class is dismissed

After class:

- Complete the iClicker exit poll
- Review your notes, filling any gaps based on what you remember from lecture
- Ask me any remaining questions you might have
- Start working on the appropriate Knewton Alta assignments as soon as possible

Calculator Policy

Many calculators will be sufficient for the exams in this class. Some good options are the TI-36X, TI-30XS, TI-83 or TI-84 (or similar Casio, other manufacturer's calculators). Examples of calculators not allowed: TI-92, TI-89, or TI-Nspires. Any other device 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 via Knewton, which must be accessed via Canvas. You **will not** need a Knerd link as access is provided directly in Canvas. Note: Mac users may find it easiest to use a browser other than Safari.

Course Evaluation

Homework (Knewton) – 25%

Attendance (iClicker) – 5%

Midterm Exams – 50% (average of all exams)

Final Exam – 20%

Grade assignment

- A: 90% and above
- B: 80% – 89%
- C: 70% – 79%
- D: 60% – 69%
- F: 59% and below

Homework

The online homework is worth 30% of your overall course grade. Each assignment is equally weighted. Most homework will use an online software program called Knewton, though some will be quizzes 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? The 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 enough 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

- 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 do the exercises on your own, without any aids.

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 Unit 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 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. At the end of the term, your 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 graded exam upon receiving it. Check your written exam grade with the grade posted online to ensure that they are the same. The average of your midterm exams account for 50% of your overall course grade. Tentative dates are listed on the attached calendar..

Final Exam

The final exam is on **Saturday, December 5**. The final exam is comprehensive and is worth at least 20% of the course grade (see the next section). For a full list of Final Exam dates and times, see this [link](#). The format of the final exam will be the same as the format of the midterm exams, except longer.

Examination Policy

Exams are closed note, on paper and done in class during the time listed on the syllabus unless an announcement of a change is made in class. (Such announcements will be mirrored on Canvas.) Students are expected to take the exams on the given day. There are no make-up exams or opportunities to take exams after the listed dates. In the event of a schedule conflict with a university function, dental/physician's appointment, wedding, formal, etc., the student must take the test *early* if possible. I request a week's notice for this accommodation via email. If an unavoidable conflict/illness comes up, reach out to me as soon as you can. If a student does not take a scheduled exam, a zero will be recorded for that exam.

If your final exam score is higher than one of your midterm scores, then that midterm exam grade – *and only that midterm grade* – will be replaced with your final exam grade. If you receive a zero for academic dishonesty on an exam, your final exam score *will not* replace that zero.

Instructor Responsibilities and Feedback

My goal in this course is to provide an environment conducive to your learning. I will work hard to be available outside of class during my tutoring/office hours and via email. I welcome questions about any portion of the course and am happy to clarify any issues if they come up. Most homework assignments are automatically graded, and you can review your work on the Canvas assignments the day after they are due. I make it a priority to grade exams quickly, but my experience suggests that this can take up to one week to return them to you.

Late Work

If 100% is not achieved by the due date, you can complete the assignment up to 2 days past the due date for a deduction of 5% per day. However, if the assignment is not complete within 48 hours, then the grade will remain as it was submitted on the due date.

An example: Suppose you earn 70% by the due date. You work on the assignment during the next two days, and you complete it. If you complete it on the first day, then you earn 95%. If you took both days to complete it, then you earn 90%. Now instead, let's say you work on the assignment during the next two days and only earn 90%. The grade will remain at 70% because you did not complete the assignment by the +48-hour mark.

The policy above applies only to work on Knewton. Late Canvas quizzes are not accepted. Finally, not having access to Knewton for any reason is not an exception to this policy; this is also the student's responsibility.

Drop/Withdrawal Policy

If the student is unable to complete this course, it is their responsibility to formally withdraw from the course. You can find more details about dropping the course [at this link](#). If the student does not properly withdraw from the course but stops attending, the student will receive a performance grade, usually an F. If you are considering dropping, it is strongly recommended that you discuss the matter with your instructor as soon as possible.

Incomplete

Three quarters of the way through the semester (see the [Academic Calendar](#) for dates) 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, 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.

Syllabus Change Policy

This syllabus is subject to change. Any changes will be announced in class, and the updated syllabus will be posted in Canvas.

Attendance and Participation

Research has shown that students who attend class are more likely to be successful. You should attend every class and participate fully 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 \(PDF\)](#). If you cannot attend a class due to an emergency, please let me know. Your safety and well-being are important to me. Even if you are unable to attend, students are responsible for all information given in class.

Your participation grade will be based on iClicker polls administered during class. Students who respond to at least 70% of the iClicker polls will receive the full 5% participation grade. Students who respond to fewer than 70% of the iClicker polls will receive points based on their total iClicker attendance and participation score.

Emergency Notification and Procedures

Students will be notified by Eagle Alert if there is a campus closing that will impact a class. The calendar is subject to change: see the [Emergency Notifications and Procedures Policy](#)

Classroom Etiquette

Appropriate behavior is expected of all students taking this course. Arrive to class promptly and do not leave until the scheduled ending time of the class. If you arrive late or leave early, please do so as discreetly as possible and take a seat near the door. Take off your listening devices. Do not talk loudly with your classmates during class. Do not play or text on your phone or work on assignments during class. I reserve the right to ask disruptive students (talkers, texters, those using a computer for non-class related work, etc.) to leave class. You will be considered absent if you are asked to leave. Again, it is considered a violation of your responsibilities as a student to be on a computer or your mobile device during class. It distracts you, lowers your performance in class, and does the same for those around you. Students misusing electronic devices for non-academic reasons distract others and may be asked to leave. See also #8 on the [10 academic rights that are linked here](#).

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.

Recommended Steps to Succeed

I have observed two character traits common to successful students. The traits are maturity and time commitment. Learning requires working when you don't want to – that requires maturity. Learning also requires consistent and diligent dedication of time. I hope the rest of this section will be helpful for you, too. It consists of advice based on experiences in the time I have been teaching and some additional advice from my colleagues with even more teaching experience.

- After class, review your notes. If you have questions, ask your instructor immediately.
- Actively read through all recommended readings.
- Listen to your instructor's advice on how to interact with the class, because they are the one who runs the class. On the other hand, you will know your schedule and limitations better than your instructor will, so always carefully consider advice when given it. You are encouraged to ask for further advice based on your knowledge and insights.
- Use the time you spend on your Knewton assignments to learn the material, rather than just getting through the homework as fast as possible. If you rush past details, you won't remember them when you need to.
- Complete the Exam Reviews prior to each exam on your own time. Do not rely exclusively on in-class review sessions to prepare for exams.
- Grades are given for the student's development, including low grades. They are not something to negotiate after receiving them, but to use to reflect on where you need to improve.
- Form a study group with your classmates – online or offline, as you and your group see fit.
- Make use of the tutoring options available to you: the [Math Lab](#), the [Learning Center](#), Supplemental Instructors, and your instructor's office hours.
- Work on the assignments consistently and start them well ahead of the due dates.

Waiting until the last minute to do anything in college, let alone homework, is a terrible idea. Don't do it.

- Math is not a spectator sport. You must try the problems, finish problems, ask questions, correct your mistakes, put concepts into your own words, and practice, practice, practice! You learn math by doing it, not by watching others do it.
- Just because you can follow steps presented to you, it does not mean you can replicate them yourself or modify them to suit a problem you are given. You must be able to solve a problem from start to finish on your own to truly say you understand it.

One last thought: As an adult, you need to **self-advocate**. If you are having problems, you are expected to seek help. Most of you, at some point in your college career you will run into problems and need to ask for help – don't wait, reach out as soon as you realize you have an issue.

Supporting Your Success and Creating an Inclusive Learning Environment

Every student in this class should have the right to learn and engage within an environment of respect and courtesy from others. We will discuss our classroom's habits of engagement, and I also encourage you to review UNT's student code of conduct so that we can all start with the same baseline civility understanding ([Code of Student Conduct](#)).

Summary of key dates

Use the following link to see the UNT Registrar's [Academic Calendar & Key Dates](#)

Academic Integrity Policy

Cheating on tests, quizzes or final exams is a serious breach of academic standards and will be punished severely and generally result in a student failing the course. All work done on exams and quizzes must represent only the student's own work, unless otherwise stated in the directions. 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. See [Academic Integrity](#) for details on academic integrity policies at UNT.

Tentative Course Schedule

Week 1

Monday 8/17/2026 Intro, Knewton, 1.1 Solving linear equations

Wednesday 8/19/2026 1.1: Solving linear equations cont., 1.2: Simple interest

Friday 8/21/2026 1.2: Simple interest

Week 2

Monday 8/24/2026 1.3: Exponential basics and Logarithmic basics, 1.4: Compound interest

Wednesday 8/26/2026 1.4: Compound interest cont.

Friday 8/28/2026 1.5: Future Value of an Annuity

Week 3

Monday 8/31/2026 1.6: Present Value of an Annuity

Wednesday 9/2/2026 1.7: Financial Math extension problems, Review

Friday 9/4/2026 2.1: Graphing, generally

Week 4

Monday 9/7/2026 Labor Day

Wednesday 9/9/2026 2.2: All about lines

Friday 9/11/2026 2.3: Finding points of intersection for two lines

Week 5

Monday 9/14/2026 2.4: Systems of linear equations and matrices

Wednesday 9/16/2026 Review

Friday 9/18/2026 Exam 1

Week 6

Monday 9/21/2026 2.5: Applied systems of linear equations

Wednesday 9/23/2026 2.6: Linear Inequalities and Systems of linear inequalities

Friday 9/25/2026 2.7: Linear programming, graphically

Week 7

Monday 9/28/2026 2.7: Linear programming, graphically cont.

Wednesday 9/30/2026 2.8: Simplex Method

Friday 10/2/2026 3.1: Functions

Week 8

Monday 10/5/2026 3.2: More about Functions

Wednesday 10/7/2026 3.3: Transformations of functions

Friday 10/9/2026 3.4: Quadratic functions and Factoring

Week 9

Monday 10/12/2026 3.4: Quadratic functions and Factoring cont.

Wednesday 10/14/2026 3.4: Quadratic functions and Factoring cont.

Friday 10/16/2026 3.5: Polynomial Functions

Week 10

Monday 10/19/2026 3.6: Rational functions

Wednesday 10/21/2026 Review

Friday 10/23/2026 Exam 2

Week 11

Monday 10/26/2026 3.7: Exponential functions

Wednesday 10/28/2026 3.7: Exponential functions cont., 3.8: Logarithmic functions

Friday 10/30/2026 3.8: Logarithmic functions cont.

Week 12

Monday 11/2/2026 4.1: Sets, 4.2: Counting Techniques

Wednesday 11/4/2026 4.3: Probability

Friday 11/6/2026 4.4: Expected Value

Week 13

Monday 11/9/2026 4.5: Conditional Probability and Independence

Wednesday 11/11/2026 4.6: More Exponential rule

Friday 11/13/2026 4.7: Function composition and decomposition

Week 14

Monday 11/16/2026 4.8: Other Algebra topics

Wednesday 11/18/2026 Review

Friday 11/20/2026 Exam 3

No Classes from November 23rd-29th due to Thanksgiving Break

Week 15

Monday 11/30/2026 4.8: Other Algebra topics cont.

Wednesday 12/2/2026 Review

Friday 12/4/2026 Reading Day

Your Final Exam is on Saturday, December 5 from 10:30 am – 12:30 pm. It is required, comprehensive and worth at least 20% of your overall grade.