Math 1180.400 & MATH 1180. 410: College Math for Business, Economics, and Related Fields Syllabus

Instructor Information

Name: Neha Tyagi
Pronouns: She/Her
Office Location: GAB 468
Office Hours: Tutoring/Office Hours:
Tuesday: GAB 9:30 am – 11:00 am & 12:00 pm -1:00 pm.
I am also often available for appointments at other times. Email me to schedule times.

Email: Neha.tyagi@UNT.edu

Meeting location and time: Tuesday: GAB 9:30 am – 11:00 am & 12:00 pm -1:00 pm.

Communication Expectations:
I typically respond in one (1) business day, during business hours. A message received after business hours is considered received the next business day. The best way to reach me is via email (include your name, course and section number). Use the Canvas email box for sending an email, it shows your course and section number. I will work hard to respond as quickly as possible to emails, but it may occasionally take me up to a business day to respond. Though I might reply to an email late at night or on the weekend, you should not expect quick responses outside of the hours of 8am -5pm.

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 course is takes place 100% online in Canvas. Information on how to be successful in a remote learning environment can be found at UNT Online (https://online.unt.edu/learn). This course is a 16-week course structured with 4 Unit modules. Each module has multiple lessons with assignments and assessments due.

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 for meeting the following 3 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 email your faculty a letter of reasonable accommodation, initiating a private discussion about your specific needs in the course.
You can request accommodations at any time, but it's important to provide ODA notice to your faculty as early as possible in the semester to avoid delays in implementation. Keep in mind that you must obtain a new letter of accommodation for each semester and meet with each faculty member before accommodations can be implemented in each class. You are strongly encouraged to meet with faculty regarding your accommodations during office hours or by appointment. Faculty have the authority to ask you to discuss your letter during their designated office hours to protect your privacy. For more information and to access resources that can support your needs, refer to the Office of Disability Access 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 2-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.

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 including Respondus Lockdown Browser
- Proficiency in using Canvas
- Proficiency in using Knewton (see Getting Started with Knewton in Canvas)
- Proficiency in using your calculator

Information on how to be successful in a digital learning environment can be found at Learn Anywhere (https://online.unt.edu/learn).

Calculator Policy

Many calculators will be sufficient for the exams on this class. Among good options are the TI-36X,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. You **will not** need a Knerd link as the access is provided directly in Canvas. Note: Mac users may find it easiest to use a browser other than Safari.

Course Evaluation

Homework	20%
Engagement	10%
Midterm Exams	50% total (Average of all exams)
Final Exam	20%

Grade Assignment:

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

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

- 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 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. 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

There will one exam covering each of the four modules in the course. Each exam is worth 50/4=12.5% of your overall grade. The exams will consist of 15 - 25 multiple-choice questions and 3-5 workout problems. Module exams are specific to the content of that Unit. They are administered online with LockDown Browser and Respondus Monitor with a webcam.

Each midterm exam will have a 120 minute time limit. Each exam becomes available at 12:01 AM (a minute after midnight Central time) on the due date 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. On certain problems, I typically provide a formula sheet in face-to-face classes. On all of the possibly relevant problems, I will include the formula sheet as an image as a part of the question. 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.

Use of Generative AI (GenAI): AI is not allowed on exams. There are many avenues you can use to get help with homework - my office hours, email, the Math Lab, … - all of which should be able to help you in the process of learning the material. AI is unlikely to be beneficial to you in learning math and sometimes will produce errors that are difficult to decode.

Final Exam:

The final exam is on **December 11, Thursday**. The final exam is comprehensive and is 20 % of the course grade. For a full list of Final Exam dates and time see this Link. The format of the final exam will be the same as the format of the midterm exams, except longer.

Examination Policy

I structure my course to balance the time necessary for students to learn the necessary content, with the need to have regular midterm exams. As such, students are expected to take the exams on the given day or early. In the event of a schedule conflict with a university function, dental/physician's appointment, wedding, formal, etc., the student should make every effort to take the test early. In the event that 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 may be recorded for that exam. If your final exam score is higher than one of your midterm exam scores, then the lowest midterm exam grade(s) will be replaced with final exam grade. If you receive a zero for academic dishonesty on an exam, the final exam score will NOT replace that zero.

Engagement tasks consist of a variety of assignments, including introduction/ orientation assignments and discussion posts. The discussion assignments are designed to keep you connected with your classmates. This graded portion of your course is worth 10% of the grade overall.

Assignment Policy

All homework assignments are due online through Canvas either directly in Canvas or via Knewton.

Late Work

Due dates are expected to be followed and are intended to allow you time to complete the course on time. As such, I will rarely accept late work. If exceptional circumstances occur, please reach out to me as soon as possible.

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, via email or via Zoom. 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 past experience suggests that this can take me up to two weeks to get them back to you.

Drop/Withdrawal Policy

If the student is unable to complete this course, it is his/her 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 me as soon as possible.

Incomplete

Beginning Nov 8, 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.

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 every class are more likely to be successful. In this class, attendance means working through the lecture notes with the aid of the instructional videos and timely and regularly completing the homework and exams. Failure to complete assignments by the due date will typically result in a grade of zero on an assignment. Whenever possible, try to work ahead to allow yourself time for when issues outside of class may distract from your time to spend learning the material in this class.

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

Recommended Steps to Succeed

I hope this advice will be helpful for you. It consists of my observations in the time I have been teaching. 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.

Some additional specific steps:

- Learning math requires a great deal of time and honest effort along with regular and consistent work.
- After class review your notes. If you have questions, ask immediately.
- Actively read through all recommended readings.
- Use the time you spend on your Knewton assignments to learn the material rather than just getting through the homework as fast as possible.
- Complete the Exam Reviews prior to each exam.
- Form a study group with your classmates. Create online groups.
- Make use of the tutoring options available to you: the Math Lab, the Learning Center, and your instructor's tutoring hours.
- The Learning Center offers several tutoring options: Drop-In Tutoring, One-on-One Tutoring, Group Tutoring and Online Tutoring. Additional links for places you can get help at UNT is on the Academic Support and Student Services page in the Canvas Start Here module.
- Work on the assignments consistently well ahead of due date. Waiting until the last minute is a horrible idea.
- Math is not a spectator sport. You must try the problems, finish problems, ask questions, correct your mistakes, put concepts in your own words, and practice, practice, practice. You learn math by doing, not by watching others do math.
- Contact your instructor immediately if you are having problems.

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:

Review the 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.

Important Notice for F-1 Students taking Distance Education Courses Federal Regulation 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) https://digitalstrategy.unt.edu/clear/policies-procedures/f1-visa.html holders. Full-time status for F-1 Visa students is 12 hours for undergraduates and 9 hours for graduate students.

Weekly Calendar

Week 1

Monday 8/18/2025 Material to cover: Introduction to class: Completely review Start Here Module and Syllabus review

Tuesday 8/19/2025

Wednesday 8/20/2025 Material to cover: 1.1: Solving linear equations Due in Canvas: Class introduction quiz LockDown Browser and Respondus Monitor Quiz

Thursday 8/21/2025 Due in Canvas: Introduce yourself Discussion Initial post

Friday 8/22/2025 Material to cover: 1.2: Simple interest Knewton Due: Sec 1.1 Pt 1 Due in Canvas: Introduce yourself Discussion Final posts, Sec 1.1 Pt 2

Week 2

Monday 8/25/2025 Material to cover: 1.3: Exponential basics and Logarithmic basics , 1.4: Compound interest Knewton Due: Sec 1.2

Tuesday 8/26/2025

Wednesday 8/27/2025 Material to cover: 1.5: Future Value of an Annuity Knewton Due: Sec 1.3, 1.4

Thursday 8/28/2025

Friday 8/29/2025 Material to cover: 1.6: Present Value of an Annuity Knewton Due: Sec 1.5

Week 3

Monday 9/1/2025 Labor Day

Tuesday 9/2/2025 Due in Canvas: Unit 1 Discussion Initial post

Wednesday 9/3/2025 Material to cover: 1.7: Financial Math extension problems, Review Knewton Due: Sec 1.6 Due in Canvas: Unit 1 Wrapup, Unit 1 Discussion Final post

Thursday 9/4/2025

Friday 9/5/2025 Due in Canvas: Exam 1

Week 4

Monday 9/8/2025 Material to cover: 2.1: Graphing, generally

Tuesday 9/9/2025

Wednesday 9/10/2025 Material to cover: 2.2: All about lines Knewton Due: Sec 2.1

Thursday 9/11/2025

Friday 9/12/2025 Material to cover: 2.3: Finding points of intersection for two lines Knewton Due: Sec 2.2 Part 1 Due in Canvas: Sec 2.2 Part 2

Week 5

Monday 9/15/2025 Material to cover: 2.4: Systems of linear equations and matrices Knewton Due: Sec 2.3

Tuesday 9/16/2025

Wednesday 9/17/2025 Material to cover: 2.5: Applied systems of linear equations Knewton Due: Sec 2.4

Thursday 9/18/2025

Friday 9/19/2025 Material to cover: 2.6: Linear Inequalities and Systems of linear inequalities Knewton Due: Sec 2.5

Week 6

Monday 9/22/2025 Material to cover: 2.7: Linear programming, graphically Knewton Due: Sec 2.6; Start Sec 2.7

Tuesday 9/23/2025

Wednesday 9/24/2025 Material to cover: 2.8: Simplex Method Knewton Due: Sec 2.7 Part 1 and Part 2

Thursday 9/25/2025 Due in Canvas: Unit 2 Discussion Initial post

Friday 9/26/2025 Material to cover: Review Knewton Due: Sec 2.8 Due in Canvas: Unit 2 Wrapup, Unit 2 Discussion Final post

Week 7

Monday 9/29/2025 Due in Canvas: Exam 2

Tuesday 9/30/2025

Wednesday 10/1/2025 Material to cover: 3.1: Functions

Thursday 10/2/2025

Friday 10/3/2025 Material to cover: 3.2: More about Functions Knewton Due: Sec 3.1

Week 8

Monday 10/6/2025 Material to cover: 3.3:Transformations of functions Knewton Due: Sec 3.2 Part 1

Tuesday 10/7/2025

Wednesday 10/8/2025 Material to cover: 3.4: Quadratic functions and Factoring Due in Canvas: Sec 3.2 Part 2

Thursday 10/9/2025

Friday 10/10/2025 Material to cover: 3.4: Quadratic functions and Factoring cont. Knewton Due: Sec 3.3

Week 9

Monday 10/13/2025 Material to cover: 3.4: Quadratic functions and Factoring cont. Knewton Due: Sec 3.4 Part 1

Tuesday 10/14/2025

Wednesday 10/15/2025 Material to cover: 3.5: Polynomial Functions Knewton Due: Sec 3.4 Part 2

Thursday 10/16/2025

Friday 10/17/2025 Material to cover: 3.5: Polynomial Functions cont., 3.6: Rational functions Knewton Due: Sec 3.2 Part 3

Week 10

Monday 10/20/2025 Material to cover: 3.6: Rational functions cont., 3.7: Exponential functions Knewton Due: Sec 3.5

Tuesday 10/21/2025

Wednesday 10/22/2025 Material to cover: 3.7: Exponential functions cont., 3.8: Logarithmic functions Knewton Due: Sec 3.6

Thursday 10/23/2025

Friday 10/24/2025 Material to cover: 3.8: Logarithmic functions cont. Knewton Due: Sec 3.7

Week 11

Monday 10/27/2025 Material to cover: Review Knewton Due: Sec 3.8 Parts 1 and 2 Due in Canvas: Unit 3 Wrapup, Unit 3 Discussion Final post

Tuesday 10/28/2025

Wednesday 10/29/2025 Due in Canvas: Exam 3

Thursday 10/30/2025

Friday 10/31/2025 Material to cover: 4.1: Sets, 4.2: Counting Techniques

Week 12

Monday 11/3/2025 Material to cover: 4.3: Probability Knewton Due: Sec 4.1, Sec 4.2

Tuesday 11/4/2025

Wednesday 11/5/2025 Material to cover: 4.4: Expected Value Knewton Due: Sec 4.3 Part 1 and Part 2

Thursday 11/6/2025

Friday 11/7/2025 Material to cover: 4.5: Conditional Probability and Independence Due in Canvas: Sec 4.4

Week 13

Monday 11/10/2025 Material to cover: 4.6: More Exponential rules Knewton Due: Sec 4.5

Tuesday 11/11/2025

Wednesday 11/12/2025 Material to cover: 4.6: More Exponential rules cont. Knewton Due: Sec 4.6 Part 1

Thursday 11/13/2025

Friday 11/14/2025 Material to cover: 4.7: Function composition and decomposition Due in Canvas: Sec 4.6 Part 2

Week 14

Monday 11/17/2025 Material to cover: 4.8: Other Algebra topics Knewton Due: Sec 4.8 Part 1 Due in Canvas: Sec 4.7

Tuesday 11/18/2025 Material to cover: 4.8: Other Algebra topics cont. Due in Canvas: Sec 4.8 Part 2, Sec 4.8 Part 3

Wednesday 11/19/2025 Due in Canvas: Unit 4 Discussion Initial post

Thursday 11/20/2025 Material to cover: Review Due in Canvas: Unit 4 Wrapup, Unit 4 Discussion Final post

Friday 11/21/2025 Material to cover: Due in Canvas: Exam 4

No Classes from November 24th-28th due to Winter Break/Thanksgiving.

Week 15

Monday 12/1/2025 Material to cover: Review

Tuesday 12/2/2025

Wednesday 12/3/2025 Material to cover: Review

Thursday 12/4/2025

Friday 12/5/2025 Reading Day

Your Final Exam is on Thursday, December 11. It is required, comprehensive and worth at least 20% of your overall grade.