

2026 Fall Math 1580.005 Survey of Math with Applications

August 17 – December 11

Welcome

Welcome to Survey of Mathematics with Applications. Success in this course comes from consistent effort, completing work on time, and asking for help early. My goal is to support you in meeting your academic goals while keeping course expectations clear and consistent. Staying engaged gives you the best chance of success in this course.

Instructor Information

Name: Rumana Akther

Office Location: GAB 468

Drop-In Office Hours: MW 11:15 am – 12:15 pm | 120A (TSI Math Lab)
MW 2:45pm – 4:30pm | GAB 468

Email: Rumana.Akther@unt.edu

Meeting time and location: MWF 12:20 PM -1:10 PM | Wh 322

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

How to Contact Me

Please reach out whenever you have questions or concerns.

- **Canvas Inbox (Preferred):** Fastest response.
- **UNT Email:** Include “MATH 1580.005” in the subject line and use your official UNT email account.

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

Course Overview

This course develops practical problem-solving skills through topics such as personal finance, voting methods, probability, statistics, set theory, and graph theory.

You will strengthen logical thinking, decision-making, and quantitative reasoning skills useful in college, work, and everyday life.

Catalog Course Description

3 hours. Topics include probability, statistics, algebra, logic, and finance mathematics. Additional topics are selected from geometry, sets, cryptography, fair division, voting theory, and graph theory. Emphasis on applications. Recreational and historical aspects of selected topics are also included. Technology is used extensively.

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

Course Prerequisites and Readiness

To succeed in this course, students should have:

- TSI complete status in Mathematics
- Regular study habits
- A willingness to stay engaged and seek help when needed

Course Structure

This 15-week course meets on campus **3 days per week**.. Class meetings provide opportunities to learn new concepts, ask questions, work collaboratively, and practice problem-solving strategies. Students are expected to arrive on time, participate actively, and remain for the entire class period. Course materials, announcements, grades, and many assignments are available through Canvas.

Course Objectives

- Solve problems involving voting and apportionment methods.
- Apply mathematical models to solve personal finance problems.
- Use set theory concepts to construct Venn diagrams and solve related problems.
- Interpret, analyze, and draw conclusions from data representations.
- Apply fundamental principles of probability and counting techniques to solve problems.
- Use graph theory to model and solve application-based problems.

Required Course Materials

Pearson MyLabs Math (Required)

Pearson MyLabs Math (MLM) access is required for the full course term.

MLM includes:

- Homework assignments & Study Plan quizzes
- eText: *Thinking Mathematically* (Blitzer, 8th ed.)
- Additional learning resources

Purchase & Registration

Purchase access **only** through one of these authorized sources:

- Pearson MyLabs (online through Canvas)

- UNT Barnes & Noble Bookstore

We have negotiated a discounted price specifically for students in this course. Do not purchase a MyLabs access code from any other source. Codes purchased elsewhere will not work for this course.

When registering:

- Register only once through the **Access Pearson** link on Canvas.
- Use your official UNT email address and name.
- Only work completed in your first valid MLM account may receive credit. Work completed in additional accounts or accounts created with non-UNT email addresses may not receive credit.
- Register immediately. See the Start Here module for instructions.

14-Day Trial Access

Pearson may offer a one-time 14-day trial to eligible students. If you use the trial, you must purchase full access before it expires. Otherwise, your access will be removed, and you may lose access to your MLM work and grades.

Note-taking Materials

- Guided notes are available in Canvas.
- Keep paper and pencil available for lesson notes, practice, and exam preparation.

Technology Requirements

To complete this course successfully, students should be able to:

- Navigate Canvas.
- Register for and use Pearson MyLab Math (MLM).
- Complete online assignments and quizzes.
- Access, download, and upload course materials.
- Use common course technology, including Microsoft Excel and PDF documents.

Students must also have:

- Access to a compatible computer.
- Reliable internet access.

Note: Smartphones are **not** sufficient for coursework.

Check Canvas Technical Requirements to confirm device compatibility.

Calculator

- You may use a TI-36, TI-84, or equivalent calculator.
- Instruction and calculator assistance are provided for TI-36 and TI-84 models only.
- Students using other calculator models should be prepared to navigate their functions independently.

- Use the same calculator during homework and review to prepare for exams.

Course Evaluation & Grading

Evaluation

Your grade is based on the following components:

- Homework (MLM and other assignments) – 15%
- Midterm Exams (average of all) – 60%
- Final Exam – 25%

Grades are posted in Canvas throughout the course.

Grading Scale

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

Grading Policy

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

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

Course Components

Homework: Learn by Practicing

Homework helps you practice new skills and prepare for exams. Most modules include multiple assignments each week, beginning on the first day of class. Progress in math usually comes from steady practice, not perfection.

Complete homework consistently and use a dedicated notebook to show work and keep organized notes for review.

- Most MLM exercises allow 3 attempts. Some exercises allow only 1 attempt.
- Homework assignments are due by 11:59 PM on the posted due date.
- Whenever possible, work ahead.
- Your three lowest MLM homework scores will be dropped.
- Most MLM homework may be submitted for up to 70% credit by 8:00 AM on the Monday following the week it was due. To access late homework, use the password (case sensitive): **Late**

- Homework may also include take-home assignments, in-class assignments, and other graded activities completed in Canvas.

Exams

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

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

Midterm Exam 1 – Problem-Solving, Voting & Apportionment, and Personal Finance

Friday, 18 September 2026

Midterm Exam 2 – Set Theory and Statistics

Wednesday, 21 October 2026

Midterm Exam 3 – Counting & Probability and Graph Theory

Friday, 20 November 2026

Final Exam – Comprehensive (See the [Final Exam Schedule](#) for date and time.)

Any changes to exam dates or content will be announced in class and posted on Canvas.

Extra Credit Opportunities

You have two ways to earn extra credit in this course through strong preparation and consistent effort.

Study Plan Quizzes (Midterm Exam Bonus)

Each module includes a timed Study Plan quiz in MyLabs Math. These quizzes are optional and help you review for the midterm exams. Because each midterm exam covers two content modules, each exam has two associated Study Plan quizzes.

- Quizzes close at 11:59 PM the day before the exam.
- Up to 5 attempts are allowed.
- Your highest score earns the bonus.

Highest Score	Bonus Point per Study Plan
90% or higher	+5 points
80–89%	+4 points
70–79%	+3 points
Below 70%	No bonus

Bonus points from both Study Plan quizzes are added together and applied to the corresponding midterm exam.

Final Exam Review Bonus

Three comprehensive review assignments in MyLabs Math are assigned before the final exam. These assignments are graded separately as homework, and qualifying scores may also earn bonus points on the final exam.

Students who score 90% or higher may earn bonus points on the final exam:

Reviews Completed with $\geq 90\%$	Bonus Points on Final Exam
1	+3 points
2	+6 points
3	+10 points

These opportunities can strengthen exam preparation while adding bonus points.

Exam Grade Replacement Option

Students who earn all 10 final exam bonus points may replace one lower module exam grade with the final exam score if the final exam score is higher.

Consistent preparation, timely work, and use of extra credit opportunities can strengthen overall course performance.

Changes to Syllabus

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

Tentative Course Schedule

The course schedule is tentative. We will work through the material as time permits, so the pace and sequence of topics may change. Assignments are generally due by 11:59 PM on the day following the class meeting in which the material was taught. Plan ahead and avoid waiting until the last minute.

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

- Review completed class notes from the previous class.
- Complete assigned homework and other assignments.
- Read assigned textbook sections when listed.

- Review worked examples and practice additional problems as needed.
- Bring your calculator and any required materials to class.

The course schedule in this syllabus provides a tentative outline of topics and pacing. Exam dates are provided on the schedule. Reminders and any schedule updates will be announced in class and posted in Canvas.

Weekly schedule

Week 1

Date	Class Topics
Mon 8/17	Course Orientation & MyLabs Orientation
Tue 8/18	
Wed 8/19	Problem Solving & 1.1 Voting Methods
Thu 8/20	
Fri 8/21	1.2 Flaws of Voting Methods & Syllabus Quiz

Week 2

Date	Class Topics
Mon 8/24	1.3 Apportionment Methods Part 1 & 1.3 Apportionment Methods Part 2
Tue 8/25	
We 8/26	1.4 Flaws of Apportionment Methods
Thu 8/27	Module 1 Study Plan
Fri 8/28	2.1 Percents, Sales Tax, and Discounts

Week 3

Date	Class Topics
Mon 8/31	2.2 Simple Interest, 2.3 Compound Interest
Tue 9/1	
Wed 9/2	2.4 Methods of Saving: Investments
Thu 9/3	
Fri 9/4	2.5 Basics of Loans Part 1, 2.5 Basics of Loans Part 2

Week 4

Date	Class Topics
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Mon 9/7	University Closed in Observance of Labor Day Holiday
Tue 9/8	
Wed 9/9	Catch-up, Get ahead
Thu 9/10	
Fri 9/11	2.6 Income Tax – Late extension to 9/16, 8 AM

Week 5

Date	Class Topics
Mon 9/14	2.7 Federal Student Loans – Due 9/16, no late extension
Tue 9/15	
Wed 9/16	Wrap-up
Thu 9/17	Module 2 Study Plan
Fri 9/18	EXAM 1

Week 6

Date	Class Topics
Mon 9/21	3.1 Basic Set Concepts
Tue 9/22	
Wed 9/23	3.2 Subsets
Thu 9/24	
Fri 9/25	3.3 Set Operations & Venn Diagrams

Week 7

Date	Class Topics
Mon 9/28	3.4 Set Operations & Venn Diagrams with 3 Sets
Tue 9/29	
We 9/30	Catch-up, get ahead
Thu 10/1	
Fri 10/2	3.5 Surveys, Module 3 Study Plan

Week 8

Date	Class Topics
Mon 10/5	4.1 Gathering, Organizing, and Visualizing Data

Tue 10/6	
Wed 10/7	4.2 Measures of Central Tendency
Thu 10/8	
Fri 10/9	4.3 Measures of Dispersion

Week 9

Date	Class Topics
Mon 10/12	4.4 The Normal Distribution
Tue 10/13	
Wed 10/14	4.5 Applications Involving the Normal Distribution
Thu 10/15	
Fri 10/16	4.6 Scatterplots, Correlation, and Regression Lines – No late extension

Week 10

Date	Class Topics
Mon 10/19	Wrap-up
Tue 10/20	Module 4 Study Plan
Wed 10/21	EXAM 2
Thu 10/22	
Fri 10/23	5.1 Counting Methods 1: Fundamental Counting Principle & Permutations

Week 11

Date	Class Topics
Mon 10/26	5.2 Counting Methods 2: Combinations
Tue 10/27	
Wed 10/28	5.3 Fundamentals of Probability
Thu 10/29	
Fri 10/30	5.4 Probability Involving Counting Methods

Week 12

Date	Class Topics
Mon 11/2	5.5 The Addition Rule, the Complement Rule, and Odds
Tue 11/3	

Wed 11/4	5.6 Conditional Probability and the Multiplication Rule
Thu 11/5	
Fri 11/6	5.7 Expectation, Module 5 Study Plan

Week 13

Date	Class Topics
Mon 11/9	6.1 Graphs, Paths, and Circuits
Tue 11/10	
Wed 11/11	6.2 Euler Paths and Euler Circuits
Thu 11/12	
Fri 11/13	6.3 Hamilton Paths and Hamilton Circuits

Week 14

Date	Class Topics
Mon 11/16	6.4 Trees – No late extension, due 11/18, 11:59 PM
Tue 11/17	
Wed 11/18	Wrap-up
Thu 11/19	Module 6 Study Plan
Fri 11/20	EXAM 3

Thanksgiving Break November 23 – November 29

Week 15

Date	Class Topics
Mon 11/30	Final Exam Review 1
Tue 12/1	
Wed 12/2	Final Exam Review 2, Final Exam Review 3
Thu 12/3	Pre-Finals Day
Fri 12/4	Reading Day

Final Exam Week

Date	Class Topics
Mon 12/7	10:30 am. – 12:30 pm. (Final Exam , see Final Exam Schedule)

Math 1580 Course Policies

Academic Integrity

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

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

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

AI Policy

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

Attendance and Participation

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

This includes:

- Attending class regularly and remaining for the entire class period.
- Bringing your calculator, completed notes, and any required materials.
- Participating in class activities and discussions.
- Completing assignments on time and staying current with course deadlines.

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

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

See UNT's [Student Attendance and Authorized Absences Policy](#) for excused absences.

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

Examination Policy

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

- Students who miss an exam without a university-approved excused absence will receive a grade of zero.
- Students with a university-approved excused absence must provide appropriate documentation within two business days of the missed exam.

- When documentation is approved under UNT's [Student Attendance and Authorized Absences Policy](#), the final exam score may replace one missed midterm exam grade.

Students may ask questions about grading for clarification. Final score determinations remain with the instructor.

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.

Early Exam Requests

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

Late Work Policy

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

- Assignments are due by the posted deadline.
- Most missed MyLabs Math homework may be submitted for up to 70% credit by 8:00 AM on the Monday following the week it was due using the password **Late**.
- There are no late or make-up exams except as provided under the Examination Policy.

- Your three lowest MyLabs Math homework scores will be dropped at the end of the term.

No additional late work is accepted beyond the built-in MyLabs Math (MLM) homework grace period.

Resources for Success

Many students improve through steady practice and early use of support resources. Below are key resources to help you stay on track and strengthen your understanding:

- **Instructor Support:** Message me through Canvas Inbox. I respond to most student messages in one business day.
- **Study Groups:** Use the [Navigate Study Buddy](#) tool to connect with classmates and study together. Collaborative learning strengthens understanding.
- [UNT Math Lab](#): Free math tutoring in a welcoming environment.
- [The Learning Center](#): Academic coaching, workshops, and tutoring to support your success across all courses.

Student Support Services & Assistance

Academic Support and Student Services

UNT strives to offer you a high-quality education and a supportive environment, so you learn and grow. As a faculty member, I am committed to helping you be successful as a student. To learn more about campus resources and information on how you can be successful at UNT, go to Succeed at UNT (unt.edu/success) and explore the many links at Wellness at UNT (unt.edu/wellness). To get all your enrollment and student financial-related questions answered, go to Integrated Student Services (scrappysays.unt.edu).

Technical Assistance for Online Course System

The university is committed to providing a reliable online course system to all users. However, part of working in the online environment involves dealing with the inconveniences and frustration that can arise when technology breaks down or does not perform as expected. Here at UNT we have a Student Help Desk that you can contact for help with Canvas and other UNT technology issues.

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

IT Help Desk: [IT Student Help Desk](https://its.unt.edu/support/) (<https://its.unt.edu/support/>)

Email: helpdesk@unt.edu

Phone: 940-565-2324

In Person: Sage Hall, Room 330

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

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

Pearson MyLabs Student Technical Support

MyLabs offers student technical support. Website: [Pearson Student Technical Support](#)

Welcome to UNT!

As members of the UNT community, we have all made a commitment to being part of an institution that respects and values the identities of the students and employees with whom we interact. UNT does not tolerate identity-based discrimination, harassment, and retaliation.

UNT Policies

Academic Integrity Standards and Consequences Policy

According to UNT Policy 06.003: Student Academic Integrity, academic dishonesty occurs when students engage in behaviors including, but not limited to cheating, fabrication, facilitating academic dishonesty, forgery, plagiarism, and sabotage. A finding of academic dishonesty may result in a range of academic penalties or sanctions ranging from admonition to expulsion from the University.

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

ADA Accommodation Statement

UNT makes reasonable academic accommodations for students with disabilities. Students seeking accommodations must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the ODA will provide the student with an accommodation letter to be delivered to faculty to begin a private discussion regarding one's specific course needs. Students may request accommodations at any time; however, ODA notices of accommodations should be provided as early as possible in the semester to avoid delays in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information, see the [Office of Disability Access](#) website.

Access to Information – Eagle Connect

Students' access point for business and academic services at UNT is located at: my.unt.edu. All official communication from the University will be delivered to student's Eagle Connect account. For more information, please visit the website that explains Eagle Connect and how to forward email to Eagle Connect (<https://it.unt.edu/eagleconnect>).

Emergency Notification and Procedures

UNT uses a system called Eagle Alert to quickly notify students with critical information in the event of an emergency. In the event of university closure, please refer to the UNT Learning Management System, Canvas, for contingency plans for covering course materials.

Student Evaluation Administration Dates

Student feedback is important and an essential part of participation in this course. The student evaluation of instruction is a requirement for all organized classes at UNT. The survey will be made available during the last weeks of the term to provide students with an opportunity to evaluate how this course is taught. Students will receive an email from "UNT SPOT Course Evaluations via IASystem Notification" (no-reply@iasystem.org) with the survey link. Students should look for the email in their UNT email inbox. Simply click on the link and complete the survey. Once students complete the survey, they will receive a confirmation email that the survey has been submitted. For additional information, please visit the [SPOT website](http://spot.unt.edu/) (<http://spot.unt.edu/>) or email spot@unt.edu.

Important Notice for F-1 Students taking Distance Education Courses

Federal regulations state that students may apply only 3 fully-online semester credit hours (SCH) to the hours required for full-time status for [F-1 Visa \(PDF\)](#) holders. Full-time status for F-1 Visa students is 12 hours for undergraduates and 9 hours for graduate students.

Student Verification

UNT takes measures to protect the integrity of educational credentials awarded to students enrolled in distance education courses by verifying student identity, protecting student privacy, and notifying students of any special meeting times/locations or additional charges associated with student identity verification in distance education courses. See [Student Identity Verification Policy](#), (<https://policy.unt.edu/policy/07-002>).

Summary of Key Dates – 2026 Fall

See [Registration Guide](#).

August 17: Classes begin.

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

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

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

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

November 7: Beginning this date, a student may request a grade of “I,” incomplete, a non-punitive grade given only if a student (1) **is passing**, (2) has justifiable reason the work cannot be completed on schedule; and (3) arranges with the instructor to complete the work in no more than one academic year.

December 3: Last Regular Class Meeting.

December 7 – 11: Final Exam